



United States
Department of
Agriculture



Natural
Resources
Conservation
Service

In cooperation with
United States
Department of Interior,
Bureau of Land
Management, University
of Nevada Agricultural
Experiment Station

Soil Survey of Lincoln County, Nevada, North Part



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 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 Thus, as older published interpretive information becomes outdated, new interpretive data must be generated and tailored to local conditions.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 survey was made cooperatively by the United States Department of Agriculture, Natural Resources Conservation Service; United States Department of Interior, Bureau of Land Management; and the University of Nevada Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Lincoln County 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. The most current official data are available at <http://websoilsurvey.nrcs.usda.gov/app/>.

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

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Cover Caption

View across eastern Lake Valley toward the Fortification Range. The soils of the foreground are located in map unit 2296, Chubard association on hills. The soils located mid-photo are in map unit 1150, Zoda-Cath association on fan remnants. The soils in the background, *Fortification Range*, is dominated by map unit 3010, Anaud-Cagas-Rock outcrop association.

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Foreword

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

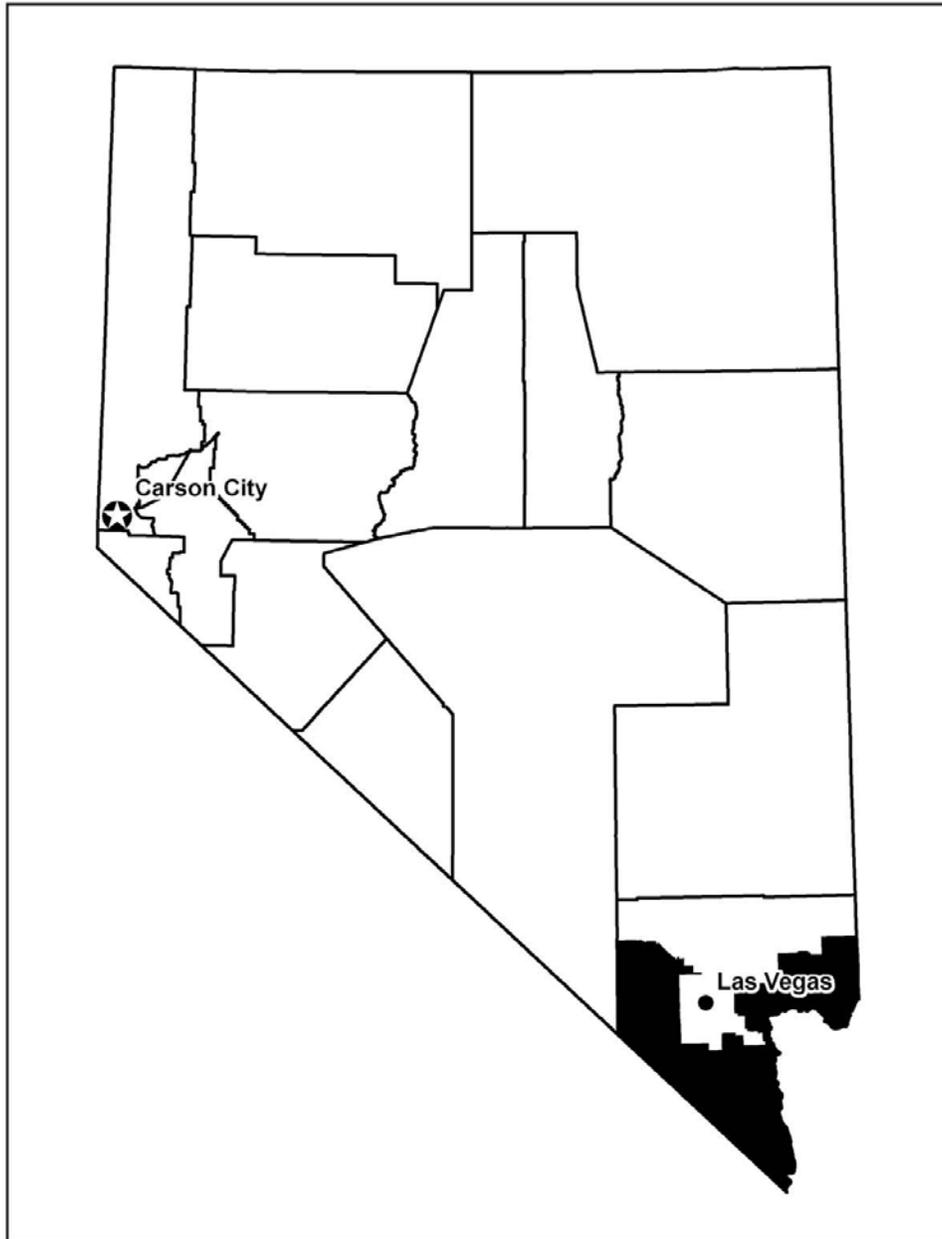
Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers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

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

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

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

RICHARD N. VIGIL
State Conservationist
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Location of the Clark County Area, Nevada Soil Survey

Soil Survey of Lincoln County, Nevada, North Part

By Curt Leet, Soil Survey Project Leader, Natural Resources Conservation Service

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United States Department of Agriculture, Natural Resources Conservation Service
in cooperation with

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The map on the facing page shows the location of the Lincoln County, Nevada, North Part soil survey. The survey area is 1,925,687 acres or about 3,009 square miles in size. The survey area is an area of high mountains, plateaus, broad fan piedmonts and valleys. It is an area of diverse geology, with volcanic and sedimentary formations common in the area. Relict lake plains, alluvial flats, and fan piedmonts are widespread in the area. The area is sparsely populated, with large areas of federal land administered by the Bureau of Land Management. No major towns or communities are present in the area. Mining and ranching are the main industries. About 98 percent of the survey area is federally controlled..

Climate

There are no towns or weather stations located within Lincoln County, Nevada, North Part area. The climate data provided is for nearby communities that represent the climate of the survey area. Climate data are provided in Table 1, "Temperature and Precipitation," Table 2, "Freeze Dates in Spring and Fall," and Table 3, "Growing Season." The data were recorded in the nearby communities of Caliente, Pioche, and Sunnyside. Temperature and precipitation and growing season data are reported for the period 1971 to 2000. Freeze dates in spring and fall are reported for the period 1961 to 1990, the last period with data available. The climate varies widely across the survey area. Temperature and precipitation in the area are strongly affected by elevation. The higher mountains receive up to about 25 inches of total precipitation and are markedly cooler than the temperatures recorded at the climate stations in the tables.

At Caliente, in winter, the average temperature is 34.4 degrees F and the average daily minimum temperature is 19.9 degrees. The lowest temperature on record, which occurred on January 9, 1937, is -31 degrees. In summer, the average temperature is 73.2 degrees and the average daily maximum temperature is 92.4 degrees. The highest recorded temperature, which occurred on July 5, 1985, is 109 degrees. At Pioche, in winter, the average temperature is 33.5 degrees F and the average minimum temperature is 22.6 degrees. The lowest temperature on record, which occurred on February 27, 1996, is -15 degrees. In summer, the average temperature is 70.4 degrees and the average daily maximum temperature is 84.7 degrees. The highest recorded temperature, which occurred on July 18, 2005 is 105 degrees. At the Sunnyside, in winter, the average temperature is 32.2 degrees F and the average daily minimum temperature is 17.7

degrees. The lowest temperature on record, which occurred on January 30, 1979, is -20 degrees. In summer, the average temperature is 69.5 degrees and the average daily maximum temperature is 88.2 degrees. The highest recorded temperature, which occurred on July 5, 1985, is 104 degrees.

Growing degree days are shown in Table 1, "Temperature and Precipitation." 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 at the Caliente is about 9.88 inches. Of this, 4.37 inches, or 44 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than .82 inch. The heaviest 1-day rainfall during the period of record was 2.23 inches on February 24, 1998. The total annual precipitation at Pioche is about 13.91 inches. Of this, 5.84 inches, or 42 percent, usually falls in April through September. The heaviest 1-day rainfall during the period of record was 2.08 inches on February 10, 1978. At Sunnyside the total annual precipitation is about 10.11 inches. Of this, 5.29 inches, or 52 percent, falls in April through September. The heaviest 1-day rainfall during the period of record was 1.79 inches on September 2, 1997.

In Caliente, the average seasonal snowfall is about 10.1 inches. The greatest snow depth at any one time during the period of record was about 14 inches. The average total snowfall at Pioche is about 19.6 inch, and is about 16.9 inch at Sunnyside. Maximum snow depth at any one time during the period of record was about 20 inches at the Pioche and about 14 inches at Sunnyside.

How This Survey Was Made

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

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

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

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

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different

levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

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

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

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Richinde very gravelly ashy sandy loam, 4 to 15 percent slopes is a phase of the Richinde 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. Chuffa-Linoyer-Playas complex 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. Richinde-Chubard-Rock outcrop association is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Playas and rock outcrop are two examples.

Table 4, "Acreage and Proportionate Extent of the Soils" lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The *Glossary* defines many of the terms used in describing the soils.

Map Unit Descriptions

1001—Eastmore-Armespan-Ursine association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,700 to 6,500

Precipitation: 8 to 10 inches

Air temperature: 50 to 53 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Eastmore gravelly loam, moist, 4 to 15 percent slopes—40 percent

Armespan very gravelly sandy loam, 2 to 4 percent slopes—30 percent

Ursine gravelly loam, 2 to 8 percent slopes—15 percent

Cliffdown very gravelly sandy loam, 0 to 4 percent slopes—5 percent

Hiko Peak gravelly loam, 0 to 4 percent slopes—5 percent

Yelbrick fine sand, overblown, 0 to 4 percent slopes—5 percent

Component Description

Eastmore and similar soils

Landform: Backslopes of fan remnants, west to south aspects

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 17 inches; very gravelly fine sandy loam

Layer 3—17 to 49 inches; cemented material

Layer 4—49 to 65 inches; gravelly fine 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: 10 to 20 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Armespan and similar soils

Landform: Inset fans
 Slope: 2 to 4 percent
 Parent material: Alluvium derived from limestone, sandstone, and shale
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 35 percent gravel
 Layer 1—0 to 3 inches; very gravelly sandy loam
 Layer 2—3 to 11 inches; gravelly sandy loam
 Layer 3—11 to 22 inches; very gravelly sandy loam
 Layer 4—22 to 60 inches; very gravelly loamy 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 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Ursine and similar soils

Landform: Upper fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from limestone with a minor component of quartzite
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam
 Layer 2—2 to 8 inches; gravelly loam
 Layer 3—8 to 16 inches; very gravelly sandy loam
 Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Cliffdown and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Lower inset fans
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Hiko Peak and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Lower drainageways
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R028AY017NV—Shallow loam 8-10 P.Z.

Yelbrick and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, fourwing saltbush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY019NV—Sandy 5-8 P.Z.

Management

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

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

1003—Eastmore-Escalante association

Map Unit Setting

MLRA: 28A
 Landscape: Fan piedmont
 Elevation: 5,600 to 6,450
 Precipitation: 8 to 10 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 110 to 130 days

Composition

Eastmore gravelly sandy loam, moist, 2 to 8 percent slopes—40 percent

Eastmore gravelly sandy loam, moist, 4 to 8 percent slopes—30 percent
 Escalante very gravelly sandy loam, 0 to 4 percent slopes—20 percent
 Ursine very gravelly loam, warm, 8 to 15 percent slopes—5 percent
 Ravendog loam, 2 to 4 percent slopes—3 percent
 Sycomat silt loam, 0 to 4 percent slopes—2 percent

Component Description

Eastmore and similar soils

Landform: Backslopes of fan remnants, west to south aspects

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and quartzite

Typical vegetation: Needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs, Indian ricegrass

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 17 inches; very gravelly fine sandy loam

Layer 3—17 to 49 inches; cemented material

Layer 4—49 to 65 inches; gravelly fine 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: 10 to 20 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Eastmore and similar soils

Landform: Backslopes of fan remnants, west to south aspects

Slope: 4 to 8 percent

Parent material: Alluvium derived from limestone and quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 17 inches; very gravelly fine sandy loam

Layer 3—17 to 49 inches; cemented material

Layer 4—49 to 65 inches; gravelly fine 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: 10 to 20 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from rhyolite and some limestone
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam
 Layer 2—3 to 27 inches; gravelly sandy loam
 Layer 3—27 to 60 inches; very gravelly 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 6 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Ursine and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Ravendog and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Sycomat and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, Nevada ephedra, greenmolly kochia, winterfat, other shrubs

Ecological site: R028AY012NV—Loamy 5-8 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1010—Armespan-Escalante association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,600 to 6,360

Precipitation: 8 to 10 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Armespan gravelly sandy loam, 2 to 8 percent slopes—55 percent

Escalante very gravelly sandy loam, 2 to 4 percent slopes—30 percent

Cliffdown very gravelly sandy loam, 0 to 2 percent slopes—10 percent

Annabella sandy loam, 0 to 4 percent slopes—5 percent

Component Description

Armespan and similar soils

Landform: Lower fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone, sandstone, and shale

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 35 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 11 inches; gravelly sandy loam

Layer 3—11 to 22 inches; very gravelly sandy loam

Layer 4—22 to 60 inches; very gravelly loamy 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 4 inches

Present flooding: None

Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Inset fans
 Slope: 2 to 4 percent
 Parent material: Alluvium derived from rhyolite and some limestone
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam
 Layer 2—3 to 27 inches; gravelly sandy loam
 Layer 3—27 to 60 inches; very gravelly 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 6 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Cliffdown and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Lower inset fans
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Annabella and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

- "Range" section
- "Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1011—Armespan very gravelly sandy loam, 2 to 15 percent slopes

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,750 to 6,400

Precipitation: 8 to 10 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Armespan gravelly sandy loam, 2 to 8 percent slopes—85 percent

Cliffdown very gravelly sandy loam, 0 to 4 percent slopes—5 percent

Eastmore gravelly sandy loam, 4 to 8 percent slopes—5 percent

Escalante very gravelly sandy loam, 0 to 4 percent slopes—5 percent

Component Description

Armespan and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone, sandstone, and shale

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 35 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 11 inches; gravelly sandy loam

Layer 3—11 to 22 inches; very gravelly sandy loam

Layer 4—22 to 60 inches; very gravelly loamy 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Cliffdown and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Lower drainageways

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Eastmore and similar soils

Composition: 0 to 5 percent

Slope: 4 to 8 percent

Landform: Higher fan remnants, west to south aspects

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Escalante and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1020—Geer-Slaw association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,600 to 6,000

Precipitation: 5 to 8 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Geer fine sandy loam, cool, 0 to 4 percent slopes—70 percent

Slaw silt loam, 0 to 2 percent slopes—15 percent

Penoyer silt loam, 0 to 2 percent slopes—9 percent

Koyen gravelly sandy loam, 0 to 2 percent slopes—6 percent

Component Description

Geer and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam

Layer 2—12 to 65 inches; 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Component Description**Slaw and similar soils**

Landform: Drainageways

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam

Layer 2—13 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: Low

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7w

Ecological site: R028AY024NV—Sodic terrace 5-8 P.Z.

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

Contrasting Inclusions**Penoyer and similar soils**

Composition: 0 to 9 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Koyen and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, fourwing saltbush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY019NV—Sandy 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1021—Geer-Penoyer association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,250 to 4,850

Precipitation: 6 to 8 inches

Air temperature: 52 to 55 degrees Fahrenheit

Frost-free period: 130 to 170 days

Composition

Geer fine sandy loam, 0 to 2 percent slopes—65 percent

Penoyer silt loam, 0 to 2 percent slopes—30 percent

Koyen gravelly sandy loam, 0 to 2 percent slopes—5 percent

Component Description

Geer and similar soils

Landform: Fan skirts

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam

Layer 2—12 to 65 inches; stratified fine sandy loam to 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 9 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Component Description

Penoyer and similar soils

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; silt loam

Layer 2—8 to 60 inches; 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 12 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 1

Nonirrigated land capability: 7c

Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions

Koyen and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Fourwing saltbush, Nevada ephedra, spiny hopsage, Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1022—Cliffdown-Geer association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,600 to 5,000

Precipitation: 6 to 8 inches

Air temperature: 52 to 55 degrees Fahrenheit

Frost-free period: 130 to 150 days

Composition

Cliffdown very gravelly sandy loam, 2 to 8 percent slopes—60 percent

Geer fine sandy loam, 2 to 4 percent slopes—30 percent
 Koyen gravelly sandy loam, 2 to 4 percent slopes—5 percent
 Annabella sandy loam, 0 to 4 percent slopes—3 percent
 Penoyer very fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Cliffdown and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; very gravelly sandy loam
 Layer 2—4 to 60 inches; stratified gravelly sandy loam to very gravelly 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 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Component Description

Geer and similar soils

Landform: Fan skirts
 Slope: 2 to 4 percent
 Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam
 Layer 2—12 to 65 inches; 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): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Koyen and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Annabella and similar soils

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Penoyer and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1029—Blackcan-Veet-Armespan association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,900 to 6,800

Precipitation: 8 to 10 inches

Air temperature: 50 to 54 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Blackcan very gravelly sandy loam, 2 to 8 percent slopes—50 percent

Veet very gravelly sandy loam, 2 to 8 percent slopes—20 percent

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

Cliffdown very gravelly sandy loam, 2 to 8 percent slopes—7 percent

Annabella sandy loam, 2 to 8 percent slopes—5 percent

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

Component Description

Blackcan and similar soils

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff, basalt, and volcanic rock

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 10 percent cobbles, 50 percent gravel

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

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 14 inches; very gravelly sandy loam

Layer 4—14 to 60 inches; cemented material

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): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Veet and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 60 percent gravel, 5 percent cobbles

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

Layer 2—4 to 16 inches; very gravelly sandy loam

Layer 3—16 to 60 inches; stratified very gravelly loamy coarse sand to extremely gravelly 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description**Armespan and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 44 percent gravel, 9 percent fine gravel, 3 percent cobbles

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

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 18 inches; gravelly loam

Layer 4—18 to 28 inches; very gravelly sandy loam

Layer 5—28 to 60 inches; very gravelly 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)

Salinity: Saline within 40 inches

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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions**Cliffdown and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Annabella and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Blackcan and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1030—Ursine-Escalante association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 4,800 to 6,850

Precipitation: 8 to 10 inches

Air temperature: 49 to 53 degrees Fahrenheit

Frost-free period: 120 to 150 days

Composition

Ursine gravelly loam, 2 to 15 percent slopes—55 percent

Escalante fine sandy loam, 0 to 4 percent slopes—30 percent

Armespan gravelly sandy loam, 8 to 30 percent slopes—5 percent

Annabella sandy loam, 0 to 4 percent slopes—5 percent

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

Component Description

Ursine and similar soils

Landform: Fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description**Escalante and similar soils**

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from rhyolite and some limestone

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; fine sandy loam

Layer 2—3 to 27 inches; gravelly sandy loam

Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions**Armespan and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Annabella and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Lower drainageways

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Lien and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Management

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

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

1031—Ursine-Geer association

Map Unit Setting

MLRA: 29
 Landscape: Fan piedmont
 Elevation: 5,450 to 5,750
 Precipitation: 6 to 10 inches
 Air temperature: 51 to 54 degrees Fahrenheit
 Frost-free period: 120 to 150 days

Composition

Ursine very gravelly loam, warm, 15 to 30 percent slopes—55 percent
 Geer fine sandy loam, 0 to 4 percent slopes—20 percent
 Ursine very gravelly loam, warm, 8 to 15 percent slopes—20 percent
 Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—5 percent

Component Description

Ursine and similar soils

Landform: Fan remnants
 Slope: 15 to 30 percent
 Parent material: Alluvium derived from limestone with a minor component of quartzite
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam
 Layer 2—2 to 8 inches; gravelly loam
 Layer 3—8 to 16 inches; very gravelly sandy loam
 Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: 7e

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Component Description

Geer and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam

Layer 2—12 to 65 inches; stratified fine sandy loam to 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 9 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Component Description

Ursine and similar soils

Landform: Fan remnants

Slope: 8 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Riverwash

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Drainageways

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1032—Ursine-Mezzer-Armespan association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,300 to 6,550

Precipitation: 1 to 10 inches

Air temperature: 50 to 54 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Ursine very gravelly loam, warm, 2 to 8 percent slopes—50 percent

Mezzer very gravelly sandy loam, 2 to 8 percent slopes—20 percent

Armespan very gravelly sandy loam, warm, 2 to 8 percent slopes—15 percent

Cliffdown very gravelly sandy loam, 2 to 8 percent slopes—7 percent

Barfan gravelly sandy loam, 8 to 15 percent slopes—5 percent

Annabella sandy loam, 0 to 4 percent slopes—3 percent

Component Description

Ursine and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly loam

Layer 4—16 to 20 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Mezzer and similar soils

Landform: Inset fans
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from limestone and quartzite
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 45 percent fine gravel
 Layer 1—0 to 3 inches; very gravelly sandy loam
 Layer 2—3 to 10 inches; gravelly fine sandy loam
 Layer 3—10 to 46 inches; extremely gravelly sandy loam, extremely gravelly fine sandy loam
 Layer 4—46 to 60 inches; very gravelly loamy coarse sand, extremely gravelly 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 4 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Armespan and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Mixed alluvium
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 44 percent gravel, 9 percent fine gravel, 3 percent cobbles
 Layer 1—0 to 1 inches; very gravelly sandy loam
 Layer 2—1 to 7 inches; gravelly loam
 Layer 3—7 to 18 inches; gravelly loam
 Layer 4—18 to 28 inches; very gravelly sandy loam
 Layer 5—28 to 60 inches; very gravelly 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)

Salinity: Saline within 40 inches

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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Cliffdown and similar soils

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Barfan and similar soils

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Isolated hills

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R029XY092NV—Barren fan 8-10 P.Z.

Annabella and similar soils

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Lower drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1033—Ursine-Cliffdown association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,850 to 6,100

Precipitation: 6 to 10 inches

Air temperature: 51 to 54 degrees Fahrenheit

Frost-free period: 120 to 150 days

Composition

Ursine very gravelly loam, warm, 4 to 15 percent slopes—75 percent

Cliffdown very gravelly sandy loam, 0 to 8 percent slopes—15 percent

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

Armespan gravelly sandy loam, 2 to 8 percent slopes—3 percent

Annabella sandy loam, 0 to 4 percent slopes—2 percent

Component Description

Ursine and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly loam

Layer 4—16 to 20 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Cliffdown and similar soils

Landform: Inset fans

Slope: 0 to 8 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

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

Layer 2—4 to 60 inches; stratified gravelly sandy loam to very gravelly 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 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Candelaria and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Lower erosional fan remnants
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs
 Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Armespan and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs
 Ecological site: R029XY009NV—Upland wash

Management

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

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

1034—Ursine association

Map Unit Setting

MLRA: 29
 Landscape: Fan piedmont
 Elevation: 4,250 to 7,300
 Precipitation: 8 to 10 inches
 Air temperature: 49 to 53 degrees Fahrenheit
 Frost-free period: 120 to 150 days

Composition

Ursine very gravelly loam, warm, 4 to 15 percent slopes—70 percent
 Ursine very gravelly loam, warm, 8 to 30 percent slopes—15 percent
 Armespan gravelly sandy loam, 8 to 15 percent slopes—7 percent
 Breko gravelly sandy loam, 4 to 8 percent slopes—6 percent
 Heist gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly loam

Layer 4—16 to 20 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly loam

Layer 4—16 to 20 inches; cemented material

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: Duripan: 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: 7e
 Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

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

Contrasting Inclusions

Armespan and similar soils

Composition: 0 to 7 percent
 Slope: 8 to 15 percent
 Landform: Upper fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Breko and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, desert needlegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, fourwing saltbush, Nevada ephedra, other shrubs, other trees
 Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Heist and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush
 Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

1035—Ursine association, cool

Map Unit Setting

MLRA: 28A
 Landscape: Fan piedmont
 Elevation: 5,700 to 6,600
 Precipitation: 8 to 10 inches
 Air temperature: 49 to 53 degrees Fahrenheit
 Frost-free period: 120 to 150 days

Composition

Ursine gravelly loam, 0 to 8 percent slopes—60 percent
 Ursine gravelly loam, 2 to 8 percent slopes—30 percent
 Ravendog loam, 2 to 4 percent slopes—3 percent
 Ursine very gravelly loam, 2 to 8 percent slopes—3 percent
 Ursine very gravelly loam, shallow, 2 to 8 percent slopes—2 percent
 Borvant extremely gravelly loam, 2 to 8 percent slopes—2 percent

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 0 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 4 percent
 Landform: Inset fans
 Typical vegetation: Other perennial forbs, Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, Wyoming big sagebrush, winterfat, other shrubs
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Ursine and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper
 Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Ursine and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs
 Ecological site: R028AY007NV—Gravelly barren fan

Borvant and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, wild crab apple, other shrubs
 Ecological site: R028AY087NV—Calcareous fan piedmont 10-14 P.Z.

Management

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

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

1036—Ursine-Mezzer association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,700 to 5,300

Precipitation: 8 to 10 inches

Air temperature: 49 to 53 degrees Fahrenheit

Frost-free period: 120 to 150 days

Composition

Ursine very gravelly loam, warm, 4 to 15 percent slopes—40 percent

Ursine very gravelly loam, warm, 8 to 30 percent slopes—30 percent

Mezzer very gravelly fine sandy loam, 2 to 8 percent slopes—15 percent

Ursine very gravelly loam, 15 to 30 percent slopes—8 percent

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

Veet gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam
 Layer 2—2 to 8 inches; gravelly loam
 Layer 3—8 to 16 inches; very gravelly sandy loam
 Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description**Mezzer and similar soils**

Landform: Inset fans
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from limestone and quartzite
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 45 percent fine gravel
 Layer 1—0 to 3 inches; very gravelly fine sandy loam
 Layer 2—3 to 10 inches; gravelly fine sandy loam
 Layer 3—10 to 46 inches; extremely gravelly sandy loam, extremely gravelly fine sandy loam
 Layer 4—46 to 60 inches; very gravelly loamy coarse sand, extremely gravelly 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 4 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions**Ursine and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Cliffdown and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Veet and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1040—Chuckmill-Qwynn association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,650 to 6,800

Precipitation: 8 to 10 inches

Air temperature: 47 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chuckmill gravelly ashy loam, 2 to 8 percent slopes—60 percent

Qwynn gravelly coarse sandy loam, 0 to 4 percent slopes—25 percent

Patter gravelly sandy loam, 0 to 4 percent slopes—6 percent

Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

Ragnel loamy fine sand, 2 to 8 percent slopes—4 percent

Component Description

Chuckmill and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly ashy loam

Layer 2—4 to 14 inches; gravelly ashy clay loam
 Layer 3—14 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Qwynn and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 15 percent gravel
 Layer 1—0 to 3 inches; gravelly coarse sandy loam
 Layer 2—3 to 28 inches; gravelly sandy loam
 Layer 3—28 to 52 inches; gravelly sandy clay loam
 Layer 4—52 to 70 inches; very gravelly coarse 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 6 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Patter and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 4 percent

Landform: Lower fan remnants

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Qwynn and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Ragnet and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Longshore bar (relict)s

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY005NV—Sandy 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1042—Chuckridge-Cath-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,150 to 6,750

Precipitation: 8 to 14 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chuckridge gravelly sandy loam, 2 to 4 percent slopes—45 percent

Cath gravelly loam, 0 to 8 percent slopes—25 percent

Sevenmile ashy sandy loam, 0 to 4 percent slopes—20 percent

Yotes gravelly ashy sandy loam, 2 to 4 percent slopes—4 percent

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

Ursine gravelly loam, 2 to 8 percent slopes—3 percent

Component Description

Chuckridge and similar soils

Landform: Fan remnants

Slope: 2 to 4 percent

Parent material: Alluvium derived from rhyolite and basalt

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly sandy loam
 Layer 2—2 to 11 inches; gravelly clay loam
 Layer 3—11 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Cath and similar soils

Landform: Fan remnants
 Slope: 0 to 8 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam
 Layer 2—3 to 21 inches; clay loam
 Layer 3—21 to 33 inches; very gravelly loam
 Layer 4—33 to 60 inches; stratified very gravelly loamy 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: Medium
 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: 6c
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 10 percent gravel, 5 percent fine gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Yotes and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Plegomir and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Ursine and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1043—Chuckridge-Handpah association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,600 to 5,450

Precipitation: 8 to 10 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Chuckridge gravelly sandy loam, warm, 15 to 30 percent slopes—65 percent

Handpah very gravelly sandy loam, dry, 8 to 30 percent slopes—25 percent

Stewval very gravelly sandy loam, 15 to 50 percent slopes—4 percent

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

Treadwell gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Chuckridge and similar soils

Landform: Fan remnants

Slope: 15 to 30 percent

Parent material: Alluvium derived from rhyolite and basalt

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly sandy loam

Layer 2—2 to 11 inches; gravelly clay loam

Layer 3—11 to 60 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Handpah and similar soils

Landform: Upper fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

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

Layer 2—2 to 8 inches; gravelly sandy clay loam

Layer 3—8 to 14 inches; very gravelly sandy loam

Layer 4—14 to 18 inches; cemented material

Layer 5—18 to 60 inches; cemented material

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: Duripan: 14 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: R029XY010NV—Loamy slope 8-10 P.Z.

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

Contrasting Inclusions

Stewval and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Hills, south aspect

Typical vegetation: Indian ricegrass, other perennial forbs, black sagebrush, Nevada ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY015NV—Shallow calcareous hill 8-10 P.Z.

Veet and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Treadwell and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Lower fan remnants

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, Nevada ephedra, spiny menodora, other shrubs

Ecological site: R029XY161NV—Shallow cobbly loam

Management

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

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

1050—Ursine-Escalante-Lien association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,250 to 7,000

Precipitation: 8 to 12 inches

Air temperature: 45 to 51 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ursine very gravelly loam, 2 to 15 percent slopes—50 percent

Escalante fine sandy loam, 0 to 4 percent slopes—25 percent

Lien very gravelly ashy loam, 2 to 15 percent slopes—15 percent

Annabella sandy loam, 2 to 4 percent slopes—4 percent

Barfan gravelly sandy loam, 2 to 8 percent slopes—3 percent

Ursine very gravelly loam, 15 to 30 percent slopes—3 percent

Component Description

Ursine and similar soils

Landform: Lower fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from rhyolite and some limestone

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; fine sandy loam

Layer 2—3 to 27 inches; gravelly sandy loam

Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Component Description

Lien and similar soils

Landform: Upper fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from tuff with minor amounts of volcanic ash

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

Typical profile:

Layer 1—0 to 3 inches; very gravelly ashy loam

Layer 2—3 to 8 inches; very gravelly ashy fine sandy loam

Layer 3—8 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

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: Duripan: 6 to 14 inches

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

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

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

Contrasting Inclusions

Annabella and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Barfan and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Lower rock pediments

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R028AY007NV—Gravelly barren fan

Ursine and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1053—Ursine, moderately sloping-Mezzer-Ursine association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,700 to 6,850

Precipitation: 8 to 10 inches

Air temperature: 49 to 53 degrees Fahrenheit

Frost-free period: 120 to 150 days

Composition

Ursine very gravelly loam, 8 to 15 percent slopes—45 percent

Mezzer very gravelly fine sandy loam, 2 to 8 percent slopes—25 percent

Ursine very gravelly loam, warm, 2 to 8 percent slopes—15 percent

Armespan gravelly sandy loam, 2 to 8 percent slopes—5 percent

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

Annabella sandy loam, 0 to 2 percent slopes—3 percent

Kyler very gravelly very fine sandy loam, 8 to 30 percent slopes—2 percent

Component Description

Ursine and similar soils

Landform: Upper fan remnants

Slope: 8 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, Nevada ephedra, Fremont's mahonia, other shrubs, other trees

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R029XY099NV—Stony calcareous hill

Component Description

Mezzer and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and quartzite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 45 percent fine gravel

Layer 1—0 to 3 inches; very gravelly fine sandy loam

Layer 2—3 to 10 inches; gravelly fine sandy loam

Layer 3—10 to 46 inches; extremely gravelly sandy loam, extremely gravelly fine sandy loam

Layer 4—46 to 60 inches; very gravelly loamy coarse sand, extremely gravelly 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 4 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description**Ursine and similar soils**

Landform: Lower fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions**Armespan and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Cliffdown and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Annabella and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Kyler and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Backslopes of lower mountains, south aspect

Typical vegetation: Other shrubs, Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1060—Gravier-Geer association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,550 to 5,900

Precipitation: 5 to 8 inches

Air temperature: 48 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Gravier gravelly loam, 0 to 4 percent slopes—55 percent

Geer fine sandy loam, cool, 0 to 4 percent slopes—30 percent

Cliffdown very gravelly sandy loam, 2 to 8 percent slopes—9 percent

Armespan gravelly sandy loam, 2 to 8 percent slopes—6 percent

Component Description

Gravier and similar soils

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from limestone and welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly loam

Layer 2—4 to 41 inches; stratified extremely gravelly coarse sandy loam to very gravelly loam

Layer 3—41 to 65 inches; extremely gravelly 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): Moderately High, (Permeability class: Moderate)

Sodicity: Sodic within 40 inches
 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: R028AY018NV—Coarse gravelly loam 5-8 P.Z.

Component Description

Geer and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam
 Layer 2—12 to 65 inches; 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): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Cliffdown and similar soils

Composition: 0 to 9 percent
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Armespan and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 8 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

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

1071—Koyen sand, 2 to 8 percent slopes

Map Unit Setting

MLRA: 29
 Landscape: Fan piedmont
 Elevation: 5,000 to 5,200
 Precipitation: 6 to 8 inches
 Air temperature: 54 to 57 degrees Fahrenheit
 Frost-free period: 120 to 160 days

Composition

Koyen sand, 2 to 8 percent slopes—90 percent
 Bienfait sandy loam, 2 to 4 percent slopes—5 percent
 Leo gravelly sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Koyen and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks with a high component of loess
 Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; sand
 Layer 2—3 to 17 inches; sandy loam
 Layer 3—17 to 44 inches; sandy loam
 Layer 4—44 to 60 inches; 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): High, (Permeability class: Moderately rapid)
 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: 7s
 Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

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

Contrasting Inclusions

Bienfait and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Lower fan remnants

Typical vegetation: Indian ricegrass, other perennial grasses, sand dropseed, other perennial forbs, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY012NV—Sandy 5-8 P.Z.

Leo and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, fourwing saltbush, rubber rabbitbrush, burrobush, Bailey greasewood, other shrubs, littleleaf horsebrush

Ecological site: R029XY041NV—Dry wash

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1073—Koyen-Colval association

Map Unit Setting

MLRA: 29

Landscape: Bolson

Elevation: 4,950 to 5,000

Precipitation: 5 to 8 inches

Air temperature: 54 to 57 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Koyen fine sandy loam, 0 to 2 percent slopes—45 percent

Colval silt loam, 0 to 2 percent slopes—40 percent

Woodrow silty clay loam, 0 to 2 percent slopes—6 percent

Glotrain gravelly coarse sandy loam, 0 to 4 percent slopes—5 percent

Penoyer very fine sandy loam, 0 to 2 percent slopes—4 percent

Component Description

Koyen and similar soils

Landform: Upper basin floor remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rocks with a high component of loess

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; fine sandy loam

Layer 2—4 to 15 inches; sandy loam

Layer 3—15 to 60 inches; 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 7 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 7c
 Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Component Description

Colval and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam
 Layer 2—5 to 11 inches; silty clay loam
 Layer 3—11 to 23 inches; silty clay loam
 Layer 4—23 to 60 inches; silt 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 Low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: Rare
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

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

Contrasting Inclusions

Woodrow and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Glotrain and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent

Landform: Basin floor remnants

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Penoyer and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Basin floor remnants

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1074—Koyen-Slaw-Penoyer association

Map Unit Setting

MLRA: 29

Landscape: Bolson

Elevation: 4,650 to 4,850

Precipitation: 5 to 8 inches

Air temperature: 52 to 57 degrees Fahrenheit

Frost-free period: 120 to 150 days

Composition

Koyen loamy fine sand, 0 to 2 percent slopes—55 percent

Slaw silt loam, 0 to 2 percent slopes—20 percent

Penoyer very fine sandy loam, 0 to 2 percent slopes—15 percent

Koyen loamy sand, 2 to 4 percent slopes—4 percent

Geer fine sandy loam, 0 to 2 percent slopes—3 percent

Ravendog loam, 0 to 2 percent slopes—3 percent

Component Description

Koyen and similar soils

Landform: Basin floor remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rocks with a high component of loess

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; loamy fine sand

Layer 2—4 to 15 inches; sandy loam

Layer 3—15 to 60 inches; 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 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 7s
 Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Component Description

Slaw and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium over lacustrine deposits derived from mixed rock sources
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam
 Layer 2—13 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: Low
 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 11 inches
 Present flooding: Occasional
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3w
 Nonirrigated land capability: 7w
 Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Component Description

Penoyer and similar soils

Landform: Fan skirts
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from limestone, welded tuff, and lacustrine deposits
 Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; very fine sandy loam
 Layer 2—8 to 60 inches; 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 12 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 1
 Nonirrigated land capability: 7c
 Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions

Koyen and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 4 percent
 Landform: Sand sheets
 Typical vegetation: Indian ricegrass, other perennial grasses, sand dropseed, other perennial forbs, fourwing saltbush, winterfat, other shrubs
 Ecological site: R029XY012NV—Sandy 5-8 P.Z.

Geer and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Upper inset fans
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Ravendog and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

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

1075—Koyen-Penoyer association

Map Unit Setting

MLRA: 29
 Landscape: Bolson
 Elevation: 4,700 to 5,150
 Precipitation: 5 to 8 inches
 Air temperature: 52 to 55 degrees Fahrenheit
 Frost-free period: 120 to 160 days

Composition

Koyen gravelly sandy loam, 0 to 2 percent slopes—50 percent
 Penoyer silt loam, 0 to 2 percent slopes—35 percent
 Koyen loamy sand, 0 to 4 percent slopes—8 percent
 Geer fine sandy loam, 0 to 2 percent slopes—4 percent
 Slaw silt loam, 0 to 2 percent slopes—3 percent

Component Description**Koyen and similar soils**

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rocks with a high component of loess
 Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam
 Layer 2—4 to 15 inches; sandy loam
 Layer 3—15 to 60 inches; 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 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: R029XY046NV—Sandy loam 5-8 P.Z.

Component Description**Penoyer and similar soils**

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits
 Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; silt loam
 Layer 2—8 to 60 inches; 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 12 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 1

Nonirrigated land capability: 7c

Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions**Koyen and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 4 percent

Landform: Sand sheets

Typical vegetation: Indian ricegrass, other perennial grasses, sand dropseed, other perennial forbs, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY012NV—Sandy 5-8 P.Z.

Geer and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Slaw and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1076—Koyen-Geer association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,600 to 5,050

Precipitation: 5 to 8 inches

Air temperature: 52 to 55 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Koyen loamy sand, 0 to 4 percent slopes—60 percent

Geer sandy loam, 0 to 2 percent slopes—30 percent

Ambush fine sandy loam, 0 to 2 percent slopes—4 percent

Penoyer very fine sandy loam, 0 to 2 percent slopes—4 percent
Annabella sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Koyen and similar soils

Landform: Fan skirts
Slope: 0 to 4 percent
Parent material: Alluvium derived from volcanic rocks with a high component of loess
Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; loamy sand
Layer 2—4 to 15 inches; sandy loam
Layer 3—15 to 60 inches; 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 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: R029XY046NV—Sandy loam 5-8 P.Z.

Component Description

Geer and similar soils

Landform: Fan skirts
Slope: 0 to 2 percent
Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; sandy loam
Layer 2—12 to 65 inches; 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): Moderately High, (Permeability class: Moderate)
Available water capacity: About 8 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Ambush and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Penoyer and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Annabella and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1080—Slaw silt loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 28A

Landscape: Bolson

Elevation: 5,700 to 5,750

Precipitation: 5 to 8 inches

Air temperature: 52 to 55 degrees Fahrenheit

Frost-free period: 120 to 140 days

Composition

Slaw silt loam, 0 to 2 percent slopes—90 percent

Cirac gravelly sandy loam, 0 to 4 percent slopes—10 percent

Component Description

Slaw and similar soils

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam

Layer 2—13 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: Low

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7w

Ecological site: R028AY024NV—Sodic terrace 5-8 P.Z.

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

Contrasting Inclusions

Cirac and similar soils

Composition: 0 to 10 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, black greasewood, other shrubs

Ecological site: R028AY024NV—Sodic terrace 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1081—Slaw-Sycomat association

Map Unit Setting

MLRA: 28A

Landscape: Bolson

Elevation: 5,550 to 5,700

Precipitation: 5 to 8 inches

Air temperature: 48 to 55 degrees Fahrenheit

Frost-free period: 100 to 140 days

Composition

Slaw silt loam, 0 to 2 percent slopes—50 percent
 Sycomat silt loam, 0 to 4 percent slopes—35 percent
 Cirac gravelly sandy loam, 0 to 2 percent slopes—4 percent
 Mazuma fine sandy loam, 2 to 8 percent slopes—4 percent
 Geer fine sandy loam, 0 to 4 percent slopes—4 percent
 Threedogs loam, 0 to 2 percent slopes—3 percent

Component Description

Slaw and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Alluvium over lacustrine deposits derived from mixed rock sources
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam
 Layer 2—13 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: Low
 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 11 inches
 Present flooding: Occasional
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7w
 Ecological site: R028BY074NV—Sodic terrace 5-8 P.Z.

Component Description

Sycomat and similar soils

Landform: Drainageways
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, Nevada ephedra, greenmolly kochia, winterfat, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam
 Layer 2—5 to 26 inches; gravelly loam
 Layer 3—26 to 45 inches; sandy loam
 Layer 4—45 to 60 inches; very 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): 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: 7s

Ecological site: R028AY012NV—Loamy 5-8 P.Z.

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

Contrasting Inclusions

Cirac and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, black greasewood, other shrubs

Ecological site: R028AY024NV—Sodic terrace 5-8 P.Z.

Mazuma and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, spiny hopsage, black greasewood

Ecological site: R028AY032NV—Droughty sodic loam

Geer and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Threedogs and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Basin wildrye, other perennial grasses, alkali sacaton, other perennial forbs, fourwing saltbush, black greasewood, other shrubs

Ecological site: R028AY107NV—Saline floodplain

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1084—Slaw-Penoyer association***Map Unit Setting***

MLRA: 29

Landscape: Bolson

Elevation: 5,100 to 5,300

Precipitation: 5 to 8 inches

Air temperature: 52 to 55 degrees Fahrenheit

Frost-free period: 120 to 150 days

Composition

Slaw silt loam, 0 to 2 percent slopes—60 percent

Penoyer very fine sandy loam, 0 to 2 percent slopes—30 percent

Easychair silt loam, 0 to 2 percent slopes—4 percent

Geer fine sandy loam, 0 to 2 percent slopes—3 percent

Woodrow silty clay loam, 0 to 4 percent slopes—3 percent

Component Description**Slaw and similar soils**

Landform: Lower basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam

Layer 2—13 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: Low

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 7w

Ecological site: R028BY074NV—Sodic terrace 5-8 P.Z.

Component Description**Penoyer and similar soils**

Landform: Upper basin floors

Slope: 0 to 2 percent

Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; very fine sandy loam

Layer 2—8 to 60 inches; 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 12 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 1

Nonirrigated land capability: 7c

Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions**Easychair and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Basin wildrye, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY048NV—Outwash plain

Geer and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Woodrow and similar soils

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Channels

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1085—Colval-Slaw association***Map Unit Setting***

MLRA: 29

Landscape: Bolson

Elevation: 4,900 to 5,100

Precipitation: 5 to 8 inches

Air temperature: 53 to 57 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Colval silt loam, 0 to 2 percent slopes—40 percent

Slaw silt loam, 0 to 2 percent slopes—30 percent

Colval silt loam, 0 to 2 percent slopes, ponded—20 percent

Slaw silt loam, wet, 0 to 2 percent slopes—5 percent

Koyen fine sandy loam, 2 to 8 percent slopes—5 percent

Component Description**Colval and similar soils**

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, Bonneville saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam

Layer 2—5 to 11 inches; silty clay loam

Layer 3—11 to 23 inches; silty clay loam

Layer 4—23 to 60 inches; silt 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 Low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Available water capacity: About 9 inches

Present flooding: None

Present ponding: Rare

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY117NV—Silty plain

Component Description**Slaw and similar soils**

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam

Layer 2—13 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: Low

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 7w

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Component Description**Colval and similar soils**

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam

Layer 2—5 to 11 inches; silty clay loam

Layer 3—11 to 23 inches; silty clay loam

Layer 4—23 to 60 inches; silt 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 Low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Available water capacity: About 9 inches

Present flooding: None

Present ponding: Rare

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

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

Contrasting Inclusions

Slaw and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, bud sagebrush, shadscale, greenmolly kochia, other shrubs

Ecological site: R029XY120NV—Saline terrace

Koyen and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Upper basin floor remnants

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1086—Slaw-Colval association

Map Unit Setting

MLRA: 29

Landscape: Bolson

Elevation: 4,900 to 5,050

Precipitation: 5 to 8 inches

Air temperature: 53 to 57 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Slaw silt loam, wet, 0 to 2 percent slopes—55 percent

Slaw silt loam, 0 to 2 percent slopes—20 percent

Colval silt loam, 0 to 2 percent slopes, ponded—15 percent

Colval silt loam, 0 to 2 percent slopes—5 percent

Koyen fine sandy loam, 0 to 2 percent slopes—5 percent

Component Description

Slaw and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, bud sagebrush, shadscale, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam

Layer 2—13 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: Low

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 7w

Ecological site: R029XY120NV—Saline terrace

Component Description**Slaw and similar soils**

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Typical profile:

Layer 1—0 to 13 inches; silt loam

Layer 2—13 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: Low

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 7w

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Component Description**Colval and similar soils**

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam

Layer 2—5 to 11 inches; silty clay loam
 Layer 3—11 to 23 inches; silty clay loam
 Layer 4—23 to 60 inches; silt 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 Low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: Rare
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

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

Contrasting Inclusions

Colval and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Basin floors
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, Bonneville saltbush, winterfat, other shrubs
 Ecological site: R029XY117NV—Silty plain

Koyen and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Sand sheets
 Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs
 Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Management

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

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

1087—Glotrain-Koyen association

Map Unit Setting

MLRA: 29
 Landscape: Bolson
 Elevation: 4,900 to 5,450
 Precipitation: 5 to 8 inches
 Air temperature: 50 to 57 degrees Fahrenheit
 Frost-free period: 110 to 160 days

Composition

Glotrain gravelly coarse sandy loam, 0 to 2 percent slopes—60 percent

Koyen loamy sand, 0 to 4 percent slopes—30 percent

Glotrain gravelly coarse sandy loam, 0 to 4 percent slopes—5 percent

Devildog very gravelly coarse sandy loam, 0 to 4 percent slopes—5 percent

Component Description

Glotrain and similar soils

Landform: Fan skirts

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 10 percent gravel, 10 percent fine gravel

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

Layer 2—4 to 26 inches; gravelly coarse sandy loam

Layer 3—26 to 60 inches; stratified coarse sand to very gravelly loamy 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s

Nonirrigated land capability: 6c

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Component Description

Koyen and similar soils

Landform: Sand sheets

Slope: 0 to 4 percent

Parent material: Alluvium derived from volcanic rocks with a high component of loess

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; loamy sand

Layer 2—4 to 15 inches; sandy loam

Layer 3—15 to 60 inches; 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 7 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 7s
 Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

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

Contrasting Inclusions

Glotrain and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat
 Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Devildog and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

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

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

1088—Radol-Eaglepass-Monarch association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 6,650 to 8,050
 Precipitation: 10 to 16 inches
 Air temperature: 43 to 50 degrees Fahrenheit
 Frost-free period: 80 to 110 days

Composition

Radol very gravelly loam, 15 to 50 percent slopes—40 percent
 Eaglepass extremely gravelly loamy coarse sand, 15 to 50 percent slopes—30 percent
 Monarch extremely cobbly fine sandy loam, 15 to 50 percent slopes—20 percent
 Buzztail very gravelly fine sandy loam, 15 to 50 percent slopes—5 percent
 Rock outcrop, 15 to 50 percent slopes—3 percent
 Pamsdel gravelly loam, 15 to 50 percent slopes—2 percent

Component Description

Radol and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, wild crab apple, other shrubs

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 15 inches; extremely cobbly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY087NV—Calcareous fan piedmont 10-14 P.Z.

Component Description

Eaglepass and similar soils

Landform: Summits of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

Layer 1—0 to 2 inches; extremely gravelly loamy coarse sand

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY029NV—Limestone hill

Component Description**Monarch and similar soils**

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone and shale

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Site index: Singleleaf pinyon—75 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; extremely cobbly fine sandy loam

Layer 2—8 to 15 inches; very gravelly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 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: F028AY077NV

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

Contrasting Inclusions**Buzztail and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Rock outcrop

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountains

Pamsdel and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Fan remnants

Typical vegetation: Bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs
 Ecological site: R028AY127NV—Loamy fan piedmont

Management

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

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

1090—Kyler-Eaglepass-Rock outcrop association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 5,850 to 7,900
 Precipitation: 8 to 12 inches
 Air temperature: 48 to 54 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Kyler very gravelly fine sandy loam, 30 to 75 percent slopes—45 percent
 Eaglepass very stony sandy loam, cool, 30 to 75 percent slopes—20 percent
 Rock outcrop, 50 to 75 percent slopes—20 percent
 Amtoft very gravelly loam, 15 to 50 percent slopes—8 percent
 Ursine gravelly loam, 8 to 15 percent slopes—5 percent
 Armespan gravelly sandy loam, 8 to 15 percent slopes—2 percent

Component Description

Kyler and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 75 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 3 inches; very gravelly fine sandy loam
 Layer 2—3 to 11 inches; very gravelly loam
 Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 1.0 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Component Description**Eaglepass and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

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

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY029NV—Limestone hill

Component Description**Rock outcrop**

Landform: Backslopes of mountains

Slope: 50 to 75 percent

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

Contrasting Inclusions**Amtoft and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, Indian ricegrass, other perennial grasses

Ecological site: R028AY034NV—Shallow calcareous slope 10-14 P.Z.

Ursine and similar soils

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Lower hills

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Armespan and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1091—Kyler-Eaglepass-Rock outcrop association, warm

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 5,000 to 7,850

Precipitation: 8 to 12 inches

Air temperature: 48 to 54 degrees Fahrenheit

Frost-free period: 100 to 150 days

Composition

Kyler extremely cobbly loam, moist, 30 to 50 percent slopes—50 percent

Eaglepass extremely stony loam, 30 to 75 percent slopes—20 percent

Rock outcrop, 30 to 75 percent slopes—20 percent

Ursine very gravelly loam, 4 to 8 percent slopes—5 percent

Wrango gravelly loamy sand, 2 to 8 percent slopes—3 percent

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—2 percent

Component Description

Kyler and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Component Description

Eaglepass and similar soils

Landform: Upper mountains
 Slope: 30 to 75 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite
 Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

Layer 1—0 to 2 inches; extremely stony loam
 Layer 2—2 to 6 inches; extremely gravelly sandy loam
 Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 0.4 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY040NV—Limestone hill

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

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

Contrasting Inclusions

Ursine and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Wrango and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big sagebrush, rubber rabbitbrush, desert peach, other shrubs, Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs

Ecological site: R029XY009NV—Upland wash

Riverwash

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1093—Kyler-Logring-Rock outcrop association**Map Unit Setting**

MLRA: 29

Landscape: Mountains

Elevation: 5,250 to 8,300

Precipitation: 8 to 12 inches

Air temperature: 47 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Kyler extremely cobbly loam, 15 to 50 percent slopes—40 percent

Logring very gravelly loam, 15 to 75 percent slopes—30 percent

Rock outcrop, 15 to 75 percent slopes—20 percent

Eaglepass extremely gravelly loamy coarse sand, 15 to 50 percent slopes—3 percent

Radol very gravelly loam, warm, 15 to 50 percent slopes—3 percent

Lodar very gravelly loam, warm, 15 to 50 percent slopes—2 percent

Ravendog gravelly loamy sand, 2 to 8 percent slopes—2 percent

Component Description**Kyler and similar soils**

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description**Logring and similar soils**

Landform: Backslopes of mountains, north aspect

Slope: 15 to 75 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Site index: Utah juniper—45 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 10 inches; very cobbly fine sandy loam

Layer 3—10 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: Lithic bedrock: 7 to 14 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: F029XY069NV

Component Description**Rock outcrop**

Landform: Mountains

Slope: 15 to 75 percent

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

Contrasting Inclusions**Eaglepass and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Summits of mountains

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R029XY040NV—Limestone hill

Radol and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Lodar and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Ravendog and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1095—Kyler-Rock outcrop-Amtoft association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,050 to 8,850

Precipitation: 8 to 12 inches

Air temperature: 48 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Kyler very cobbly loam, 15 to 50 percent slopes—55 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Amtoft very gravelly loam, warm, 8 to 30 percent slopes—15 percent

Logring very cobbly fine sandy loam, 15 to 50 percent slopes—7 percent

Amtoft very gravelly loam, 8 to 15 percent slopes—6 percent

Hardzem channery loam, 30 to 75 percent slopes—2 percent

Component Description

Kyler and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 11 inches; very gravelly very fine sandy loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 75 percent

Component Description

Amtoft and similar soils

Landform: Backslopes of lower mountains, north aspect

Slope: 8 to 30 percent

Parent material: Residuum and colluvium weathered from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Slow)
 Available water capacity: About 1.0 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

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

Contrasting Inclusions

Logring and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains, north aspect
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
 Ecological site: F029XY069NV

Amtoft and similar soils

Composition: 0 to 6 percent
 Slope: 8 to 15 percent
 Landform: Backslopes of mountains, north aspect
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees
 Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Hardzem and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of higher mountain slopes, north aspect
 Typical vegetation: Forest canopy—singleleaf pinyon, white fir Forest understory—Thurber's needlegrass, bottlebrush squirreltail, spike fescue, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, white fir, singleleaf pinyon
 Ecological site: F029XY096NV

Management

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

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

1096—Kyler-Lodar association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 6,150 to 6,500

Precipitation: 8 to 14 inches
 Air temperature: 48 to 54 degrees Fahrenheit
 Frost-free period: 90 to 130 days

Composition

Kyler very gravelly fine sandy loam, 15 to 30 percent slopes—50 percent
 Lodar very gravelly loam, 8 to 30 percent slopes—35 percent
 Eaglepass extremely gravelly loamy coarse sand, 30 to 50 percent slopes—5 percent
 Rock outcrop, 30 to 50 percent slopes—5 percent
 Ursine gravelly loam, 8 to 30 percent slopes—5 percent

Component Description

Kyler and similar soils

Landform: Backslopes of mountains, south to southeast aspects
 Slope: 15 to 30 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 3 inches; very gravelly fine sandy loam
 Layer 2—3 to 11 inches; very gravelly very fine sandy loam
 Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Component Description

Lodar and similar soils

Landform: Backslopes of mountains, northwest to north aspects
 Slope: 8 to 30 percent
 Parent material: Colluvium and residuum derived from limestone
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam
 Layer 2—8 to 16 inches; very gravelly loam
 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: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

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

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: F028AY074NV

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

Contrasting Inclusions

Eaglepass and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Summits of mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R028AY029NV—Limestone hill

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Ursine and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1100—Linoyer-Heist association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,700 to 6,300

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 140 days

Composition

Linoyer very fine sandy loam, 0 to 2 percent slopes—45 percent
 Heist loamy sand, moist, 0 to 4 percent slopes—40 percent
 Ravendog loam, 0 to 4 percent slopes—8 percent
 Medburn silt loam, 0 to 8 percent slopes—5 percent
 Ravendog loam, 0 to 2 percent slopes—2 percent

Component Description

Linoyer and similar soils

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone

Typical vegetation: Other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs, Indian ricegrass, bottlebrush squirreltail, other perennial grasses

Typical profile:

Layer 1—0 to 11 inches; very fine sandy loam

Layer 2—11 to 60 inches; 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6e

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Component Description

Heist and similar soils

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and limestone

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; loamy sand

Layer 2—8 to 20 inches; fine sandy loam

Layer 3—20 to 60 inches; 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 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Medburn and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 8 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY005NV—Sandy 8-10 P.Z.

Ravendog and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Drainageways
 Typical vegetation: Basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs
 Ecological site: R028AY025NV—Dry floodplain

Management

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

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

1103—Patter-Sevenmile association

Map Unit Setting

MLRA: 28A
 Landscape: Fan piedmont
 Elevation: 5,600 to 5,800
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Patter gravelly sandy loam, 0 to 2 percent slopes—50 percent
 Sevenmile ashy sandy loam, moist, 2 to 4 percent slopes—40 percent
 Linoyer very fine sandy loam, 0 to 2 percent slopes—4 percent
 Badland, 2 to 15 percent slopes—2 percent
 Chuckridge gravelly loam, 0 to 2 percent slopes—2 percent
 Linco gravelly sandy loam, 4 to 15 percent slopes—1 percent
 Baberwit sandy loam, 2 to 15 percent slopes—1 percent

Component Description

Patter and similar soils

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 2 inches; gravelly sandy loam

Layer 2—2 to 14 inches; ashy silt loam

Layer 3—14 to 47 inches; ashy silt loam

Layer 4—47 to 60 inches; 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 9 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6e

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Component Description

Sevenmile and similar soils

Landform: Drainageways

Slope: 2 to 4 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

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

Contrasting Inclusions**Linoyer and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Badland

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Chuckridge and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Linco and similar soils

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Baberwit and similar soils

Composition: 0 to 1 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R028AY007NV—Gravelly barren fan

Management

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

"Range" section

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

1104—Colval-Penoyer association

Map Unit Setting

MLRA: 29
 Landscape: Bolson
 Elevation: 4,500 to 5,650
 Precipitation: 6 to 8 inches
 Air temperature: 54 to 57 degrees Fahrenheit
 Frost-free period: 130 to 160 days

Composition

Colval silt loam, 0 to 2 percent slopes—60 percent
 Penoyer very fine sandy loam, 0 to 4 percent slopes—30 percent
 Geer fine sandy loam, 2 to 8 percent slopes—4 percent
 Slaw silt loam, 0 to 2 percent slopes—4 percent
 Cliffdown very gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Colval and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam
 Layer 2—5 to 11 inches; silty clay loam
 Layer 3—11 to 23 inches; silty clay loam
 Layer 4—23 to 60 inches; silt 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 Low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: Rare
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

Component Description

Penoyer and similar soils

Landform: Upper inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; very fine sandy loam

Layer 2—8 to 60 inches; 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 12 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 1

Nonirrigated land capability: 7c

Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions

Geer and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Slaw and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, saltbush, black greasewood, other shrubs, seepweed

Ecological site: R029XY076NV—Sodic flat

Cliffdown and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Management

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

"Range" section

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

1106—Patter-Linco association

Map Unit Setting

MLRA: 28A
 Landscape: Fan piedmont
 Elevation: 5,600 to 5,850
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 51 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Patter gravelly sandy loam, 0 to 4 percent slopes—45 percent
 Linco gravelly sandy loam, 2 to 8 percent slopes—40 percent
 Ravendog loam, dry, 2 to 4 percent slopes—7 percent
 Ravendog loam, 2 to 4 percent slopes—6 percent
 Baberwit sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Patter and similar soils

Landform: Flood plains
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from mixed rocks with minor amounts of volcanic ash
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel
 Layer 1—0 to 2 inches; gravelly sandy loam
 Layer 2—2 to 14 inches; silt loam
 Layer 3—14 to 47 inches; silt loam
 Layer 4—47 to 60 inches; gravelly 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 9 inches
 Present flooding: Occasional
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 6e
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Component Description

Linco and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; gravelly sandy loam

Layer 2—8 to 25 inches; gravelly fine sandy loam

Layer 3—25 to 60 inches; gravelly 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): 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: 7c

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 7 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Ravendog and similar soils

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Baberwit and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Needleandthread, galleta, Indian ricegrass, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R028AY007NV—Gravelly barren fan

Management

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

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

1110—Nuhelen-Chubard-Rock outcrop association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 6,050 to 8,150
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Nuhelen gravelly coarse sandy loam, cool, 8 to 50 percent slopes—40 percent
 Chubard very gravelly sandy loam, cool, 8 to 30 percent slopes—35 percent
 Rock outcrop, 30 to 75 percent slopes—15 percent
 Lien very gravelly ashy loam, 4 to 15 percent slopes—10 percent

Component Description

Nuhelen and similar soils

Landform: Backslopes and summits of mountains, north aspect
 Slope: 8 to 50 percent
 Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 2 percent cobbles, 10 percent gravel, 20 percent fine gravel
 Layer 1—0 to 4 inches; gravelly coarse sandy loam
 Layer 2—4 to 6 inches; very gravelly sandy loam
 Layer 3—6 to 13 inches; very cobbly sandy clay loam
 Layer 4—13 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: Lithic bedrock: 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
 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: F028AY074NV

Component Description

Chubard and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions

Lien and similar soils

Composition: 0 to 10 percent

Slope: 4 to 15 percent

Landform: Fan remnants

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

Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1111—Nuhelen-Farepeak association

Map Unit Setting

MLRA: 29

Landscape: Mountains
 Elevation: 5,850 to 7,200
 Precipitation: 10 to 14 inches
 Air temperature: 43 to 50 degrees Fahrenheit
 Frost-free period: 70 to 110 days

Composition

Nuhelen very stony loam, dry, 15 to 50 percent slopes—45 percent
 Farepeak very gravelly ashy loam, 30 to 50 percent slopes—40 percent
 Farepeak very gravelly ashy loam, 2 to 4 percent slopes—9 percent
 Rock outcrop, 30 to 50 percent slopes—6 percent

Component Description

Nuhelen and similar soils

Landform: Mountains, north aspect
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, black sagebrush, green ephedra, other perennial grasses, other perennial forbs, other shrubs, Utah juniper, goldenweed, Stansbury cliffrose, desert bitterbrush
 Site index: Utah juniper—15 at an age base of 100 years
 Site index: Singleleaf pinyon—30 at an age base of 100 years

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 4 inches; very stony loam
 Layer 2—4 to 6 inches; very gravelly sandy loam
 Layer 3—6 to 13 inches; very cobbly sandy clay loam
 Layer 4—13 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: Lithic bedrock: 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: F029XY071NV

Component Description

Farepeak and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium and residuum derived from welded tuff
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones

Layer 1—0 to 3 inches; very gravelly ashy loam

Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam

Layer 3—13 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: Lithic bedrock: 10 to 14 inches

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

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: F028AY099NV

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

Contrasting Inclusions**Farepeak and similar soils**

Composition: 0 to 9 percent

Slope: 2 to 4 percent

Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, buckwheat, other perennial forbs, Wyoming big sagebrush, desert bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY065NV

Rock outcrop

Composition: 0 to 6 percent

Slope: 30 to 50 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1113—Farepeak-Slockey-Schoolmarm association***Map Unit Setting***

MLRA: 28A

Landscape: Mountains

Elevation: 6,700 to 7,600

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Farepeak very gravelly ashy loam, 15 to 30 percent slopes—40 percent
 Slockey very gravelly ashy sandy clay loam, 15 to 30 percent slopes—25 percent
 Schoolmarm gravelly ashy sandy loam, 4 to 30 percent slopes—20 percent
 Rock outcrop, 30 to 50 percent slopes—9 percent
 Hamtah very stony ashy sandy clay loam, 15 to 30 percent slopes—3 percent
 Starflyer very cobbly ashy coarse sandy loam, 8 to 30 percent slopes—3 percent

Component Description

Farepeak and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones

Layer 1—0 to 3 inches; very gravelly ashy loam

Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam

Layer 3—13 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: Lithic bedrock: 10 to 14 inches

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

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: F028AY099NV

Component Description

Slockey and similar soils

Landform: Rock pediments

Slope: 15 to 30 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam

Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam

Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam

Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description**Schoolmarm and similar soils**

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

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

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY126NV—Cobbly claypan

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

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 9 percent

Slope: 30 to 50 percent

Landform: Mountains

Hamtah and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Hills

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028AY066NV—Gravelly loam 12-14 P.Z.

Starflyer and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1114—Slockey-Schoolmarm-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 7,150 to 8,250

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Slockey very gravelly ashy sandy clay loam, 15 to 30 percent slopes—35 percent

Schoolmarm gravelly ashy sandy loam, 8 to 30 percent slopes—30 percent

Rock outcrop, 15 to 50 percent slopes—20 percent

Udel extremely gravelly sandy loam, 30 to 50 percent slopes—9 percent

Hackwood gravelly silt loam, 30 to 50 percent slopes—6 percent

Component Description

Slockey and similar soils

Landform: Mountains

Slope: 15 to 30 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam

Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam

Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam

Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description

Schoolmarm and similar soils

Landform: Backslopes of hills
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from welded tuff
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam
 Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam
 Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028AY126NV—Cobbly claypan

Component Description

Rock outcrop

Landform: Mountains
 Slope: 15 to 50 percent

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

Contrasting Inclusions

Udel and similar soils

Composition: 0 to 9 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other perennial forbs, muttongrass, other perennial grasses, bluebunch wheatgrass, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees
 Ecological site: R028AY059NV—Mahogany savanna

Hackwood and similar soils

Composition: 0 to 6 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—Engelmann's spruce, quaking aspen Forest understory—Fendler's meadowrue, white fir, other perennial grasses, other perennial forbs, mountain brome, nodding brome, slender wheatgrass, Utah serviceberry, Oregongrape, willow, other shrubs, snowberry, Engelmann's spruce, quaking aspen

Ecological site: F028AY078NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1115—Nuhelen-Rock outcrop-Newvil association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,400 to 7,050

Precipitation: 10 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Nuhelen very cobbly sandy loam, cool, 8 to 15 percent slopes—50 percent

Rock outcrop, 15 to 50 percent slopes—20 percent

Newvil very gravelly coarse sandy loam, 2 to 15 percent slopes—15 percent

Nevu gravelly ashy sandy loam, 2 to 8 percent slopes—7 percent

Nuhelen gravelly sandy loam, 30 to 50 percent slopes—6 percent

Slockey very gravelly ashy sandy clay loam, 15 to 50 percent slopes—1 percent

Ravendog loam, 2 to 4 percent slopes—1 percent

Component Description

Nuhelen and similar soils

Landform: Mountains, north aspect

Slope: 8 to 15 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 2 percent cobbles, 10 percent gravel, 20 percent fine subrounded gravel

Layer 1—0 to 4 inches; very cobbly sandy loam

Layer 2—4 to 6 inches; very gravelly sandy loam

Layer 3—6 to 13 inches; very cobbly sandy clay loam

Layer 4—13 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: Lithic bedrock: 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
 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: F028AY074NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 15 to 50 percent

Component Description

Newvil and similar soils

Landform: Fan remnants
 Slope: 2 to 15 percent
 Parent material: Alluvium derived from welded tuff
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's
 needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush,
 other shrubs
 Site index: Utah juniper—30 at an age base of 100 years
 Site index: Singleleaf pinyon—30 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; very gravelly coarse sandy loam
 Layer 2—3 to 12 inches; gravelly sandy clay loam
 Layer 3—12 to 17 inches; gravelly loam
 Layer 4—17 to 48 inches; cemented material
 Layer 5—48 to 60 inches; very gravelly coarse sand

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: Duripan: 15 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: R028AY036NV—Shallow clay loam 12-14 P.Z.

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

Contrasting Inclusions

Nevu and similar soils

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Summits of upper fan remnants

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Nuhelen and similar soils

Composition: 0 to 6 percent

Slope: 30 to 50 percent

Landform: Mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Slockey and similar soils

Composition: 0 to 1 percent

Slope: 15 to 50 percent

Landform: Rock pediments

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Ravendog and similar soils

Composition: 0 to 1 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1120—Watoopah-Chuckmill association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,950 to 6,250

Precipitation: 8 to 10 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Watoopah gravelly loamy sand, cool, 2 to 8 percent slopes—70 percent

Chuckmill gravelly ashy loam, 8 to 15 percent slopes—15 percent

Heist loamy sand, 0 to 4 percent slopes—7 percent

Biblesprings loam, 2 to 8 percent slopes—5 percent

Medburn silt loam, 8 to 15 percent slopes—3 percent

Component Description

Watoopah and similar soils

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff and rhyolite with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly loamy sand

Layer 2—4 to 14 inches; sandy loam

Layer 3—14 to 40 inches; gravelly loamy sand

Layer 4—40 to 60 inches; stratified very gravelly coarse sand to coarse 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Chuckmill and similar soils

Landform: Fan remnants

Slope: 8 to 15 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 4 inches; gravelly ashy loam

Layer 2—4 to 14 inches; gravelly ashy clay loam

Layer 3—14 to 60 inches; cemented material

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: Duripan: 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: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

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

Contrasting Inclusions**Heist and similar soils**

Composition: 0 to 7 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Biblesprings and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Medburn and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1130—Handpah-Chuckridge-Sevenmile association***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,700 to 6,350

Precipitation: 8 to 12 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Handpah gravelly sandy loam, cool, 0 to 4 percent slopes—40 percent

Chuckridge gravelly loam, 0 to 4 percent slopes—35 percent

Sevenmile ashy sandy loam, 0 to 2 percent slopes—15 percent

Heist loamy sand, 2 to 8 percent slopes—5 percent

Rattleflat gravelly sandy loam, 2 to 4 percent slopes—3 percent

Ravendog loam, 0 to 2 percent slopes—2 percent

Component Description**Handpah and similar soils**

Landform: Summits of fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly sandy loam

Layer 2—2 to 8 inches; gravelly sandy clay loam

Layer 3—8 to 14 inches; very gravelly sandy loam

Layer 4—14 to 18 inches; cemented material

Layer 5—18 to 60 inches; cemented material

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: Duripan: 14 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: R028AY017NV—Shallow loam 8-10 P.Z.

Component Description**Chuckridge and similar soils**

Landform: Summits of fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from rhyolite and basalt

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 11 inches; gravelly clay loam

Layer 3—11 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description**Sevenmile and similar soils**

Landform: Inset fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions**Heist and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Rattleflat and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Ravendog and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs

Ecological site: R028AY025NV—Dry floodplain

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1131—Handpah-Watoopah-Littleailie association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,900 to 6,100

Precipitation: 8 to 10 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Handpah gravelly fine sandy loam, 2 to 8 percent slopes—40 percent

Watoopah gravelly loamy sand, 2 to 8 percent slopes—30 percent

Littleailie gravelly sandy loam, 4 to 15 percent slopes—15 percent

Veet gravelly sandy loam, 0 to 4 percent slopes—9 percent

Annabella sandy loam, 0 to 4 percent slopes—6 percent

Component Description

Handpah and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

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

Layer 2—2 to 8 inches; gravelly clay loam

Layer 3—8 to 14 inches; very gravelly sandy loam

Layer 4—14 to 18 inches; cemented material

Layer 5—18 to 60 inches; cemented material

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: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: 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: R029XY006NV—Loamy 8-10 P.Z.

Component Description**Watoopah and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff and rhyolite with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly loamy sand

Layer 2—4 to 14 inches; sandy loam

Layer 3—14 to 40 inches; gravelly loamy sand

Layer 4—40 to 60 inches; stratified very gravelly coarse sand to coarse 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description**Littleailie and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff with a minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 8 inches; gravelly sandy loam

Layer 3—8 to 19 inches; very gravelly sandy loam

Layer 4—19 to 41 inches; cemented material

Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 9 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 6 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Other shrubs, Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1132—Handpah-Veet association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,550 to 6,450

Precipitation: 8 to 10 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Handpah gravelly sandy loam, 2 to 15 percent slopes—70 percent

Veet gravelly sandy loam, 2 to 8 percent slopes—20 percent

Annabella sandy loam, 0 to 4 percent slopes—7 percent

Handpah very gravelly sandy loam, 15 to 30 percent slopes—3 percent

Component Description

Handpah and similar soils

Landform: Fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 2 inches; gravelly sandy loam

Layer 2—2 to 8 inches; gravelly sandy clay loam

Layer 3—8 to 14 inches; very gravelly sandy loam

Layer 4—14 to 18 inches; cemented material

Layer 5—18 to 60 inches; cemented material

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: Duripan: 14 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: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Veet and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 16 inches; very gravelly sandy loam

Layer 3—16 to 60 inches; stratified very gravelly loamy coarse sand to extremely gravelly 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 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Annabella and similar soils

Composition: 0 to 7 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Handpah and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1133—Lojet-Qwynn-Littleailie association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,700 to 7,000

Precipitation: 8 to 10 inches

Air temperature: 47 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Lojet coarse sandy loam, 0 to 4 percent slopes—40 percent

Qwynn gravelly coarse sandy loam, thick surface, 2 to 8 percent slopes—30 percent

Littleailie gravelly sandy loam, 2 to 8 percent slopes—20 percent

Gardenvalley gravelly fine sandy loam, 0 to 4 percent slopes—5 percent

Devildog very gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Lojet and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 10 percent gravel

Layer 1—0 to 4 inches; coarse sandy loam

Layer 2—4 to 11 inches; sandy clay loam
 Layer 3—11 to 35 inches; gravelly sandy clay loam
 Layer 4—35 to 41 inches; cemented material
 Layer 5—41 to 60 inches; very gravelly coarse sandy loam

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: Duripan: 20 to 39 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 5 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Qwynn and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 15 percent gravel
 Layer 1—0 to 7 inches; gravelly coarse sandy loam
 Layer 2—7 to 28 inches; gravelly sandy loam
 Layer 3—28 to 52 inches; gravelly sandy clay loam
 Layer 4—52 to 70 inches; very gravelly coarse 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 6 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Littleailie and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with a minor component of limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 8 inches; gravelly sandy loam

Layer 3—8 to 19 inches; very gravelly sandy loam

Layer 4—19 to 41 inches; cemented material

Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Gardenvalley and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Devildog and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1134—Lojet-Chuckmill-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont
 Elevation: 5,750 to 6,500
 Precipitation: 8 to 12 inches
 Air temperature: 47 to 53 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Lojet coarse sandy loam, 0 to 4 percent slopes—40 percent
 Chuckmill gravelly ashy loam, 2 to 8 percent slopes—35 percent
 Sevenmile ashy sandy loam, moist, 0 to 2 percent slopes—15 percent
 Devil dog very gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent
 Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—3 percent
 Sevenmile ashy sandy loam, 2 to 4 percent slopes—2 percent

Component Description

Lojet and similar soils

Landform: Fan remnants
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 10 percent gravel
 Layer 1—0 to 4 inches; coarse sandy loam
 Layer 2—4 to 11 inches; sandy clay loam
 Layer 3—11 to 35 inches; gravelly sandy clay loam
 Layer 4—35 to 41 inches; cemented material
 Layer 5—41 to 60 inches; very gravelly coarse sandy loam

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: Duripan: 20 to 39 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 5 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R028AY017NV—Shallow loam 8-10 P.Z.

Component Description

Chuckmill and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly ashy loam
 Layer 2—4 to 14 inches; gravelly ashy clay loam
 Layer 3—14 to 60 inches; cemented material

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: Duripan: 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
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description**Sevenmile and similar soils**

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from welded tuff and some limestone and quartzite
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
 Layer 1—0 to 11 inches; ashy sandy loam
 Layer 2—11 to 35 inches; loam
 Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)
 Available water capacity: About 10 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions**Devildog and similar soils**

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Qwynn and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Sevenmile and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs

Ecological site: R028AY025NV—Dry floodplain

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1138—Littleailie-Lien-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,850 to 7,100

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Littleailie gravelly sandy loam, 0 to 4 percent slopes—50 percent

Lien very gravelly loam, 2 to 8 percent slopes—20 percent

Sevenmile ashy sandy loam, 0 to 2 percent slopes—15 percent

Handpah gravelly sandy loam, 2 to 4 percent slopes—9 percent

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

Ravendog loam, 2 to 4 percent slopes—3 percent

Component Description

Littleailie and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam
 Layer 2—3 to 8 inches; gravelly sandy loam
 Layer 3—8 to 19 inches; very gravelly sandy loam
 Layer 4—19 to 41 inches; cemented material
 Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Lien and similar soils

Landform: Upper fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from tuff with minor amounts of volcanic ash
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 8 inches; very gravelly fine sandy loam
 Layer 3—8 to 24 inches; cemented material
 Layer 4—24 to 60 inches; cemented material

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: Duripan: 6 to 14 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 0.5 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans
 Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Handpah and similar soils

Composition: 0 to 9 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Jarab and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Ecological site: R028AY036NV—Shallow clay loam 12-14 P.Z.

Ravendog and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Management

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

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

1140—Cowgil-Yody-Fax association

Map Unit Setting

MLRA: 28B
 Landscape: Fan piedmont
 Elevation: 5,900 to 6,550
 Precipitation: 8 to 14 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Cowgil very gravelly sandy loam, 4 to 15 percent slopes—35 percent
 Yody gravelly sandy loam, 2 to 8 percent slopes—30 percent
 Fax very cobbly coarse sandy loam, 4 to 15 percent slopes—20 percent
 Pyrat gravelly sandy loam, 2 to 8 percent slopes—5 percent
 McIvey very gravelly loam, 15 to 30 percent slopes—5 percent
 Pern silt loam, 2 to 8 percent slopes—5 percent

Component Description

Cowgil and similar soils

Landform: Fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from quartzite, shale, and dolomite
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 4 inches; very gravelly sandy loam
 Layer 2—4 to 21 inches; very gravelly sandy clay loam
 Layer 3—21 to 61 inches; very cobbly 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 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Component Description

Yody and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks

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

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam
 Layer 2—4 to 30 inches; gravelly sandy clay loam
 Layer 3—30 to 36 inches; gravelly sandy loam
 Layer 4—36 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: 30 to 39 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

Irrigated land capability: 3e
 Nonirrigated land capability: 6s
 Ecological site: R028BY086NV—Gravelly clay 10-12 P.Z.

Component Description

Fax and similar soils

Landform: Fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from andesite and quartzite
 Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush

Typical profile:

Layer 1—0 to 3 inches; very cobbly coarse sandy loam
 Layer 2—3 to 12 inches; very cobbly sandy clay loam
 Layer 3—12 to 22 inches; very cobbly coarse sandy loam
 Layer 4—22 to 48 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 36 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: R028BY007NV—Loamy 10-12 P.Z.

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

Contrasting Inclusions

Pyrat and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Mclvey warm and similar soils

Composition: 0 to 5 percent

Classification: Clayey-skeletal, smectitic, mesic Aridic Argixerolls; this soil is taxadjunct to the Mclvey series. It is warmer than typical for the series and has an aridic soil moisture regime.

Slope: 15 to 30 percent

Landform: Backslopes of rock pediments

Typical vegetation: Western needlegrass, Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, snowberry

Ecological site: R028BY015NV—Loamy slope 12-16 P.Z.

Pern and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028BY003NV—Loamy bottom 10-14 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1150—Zoda-Cath association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,900 to 6,550

Precipitation: 8 to 10 inches

Air temperature: 47 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Zoda gravelly ashy sandy loam, 0 to 4 percent slopes—45 percent

Cath silt loam, 0 to 4 percent slopes—40 percent

Heist loamy sand, 0 to 4 percent slopes—4 percent

Heist loamy sand, 0 to 4 percent slopes, occasionally flooded—4 percent

Geer fine sandy loam, 0 to 4 percent slopes—4 percent

Chuckridge gravelly loam, 4 to 8 percent slopes—3 percent

Component Description

Zoda and similar soils

Landform: Lower fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 7 percent gravel, 8 percent fine gravel

Layer 1—0 to 5 inches; gravelly ashy sandy loam

Layer 2—5 to 15 inches; gravelly ashy sandy clay loam

Layer 3—15 to 24 inches; gravelly ashy sandy clay loam

Layer 4—24 to 32 inches; cemented material

Layer 5—32 to 60 inches; cemented material

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 High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Cath and similar soils

Landform: Upper fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; silt loam

Layer 2—3 to 21 inches; clay loam

Layer 3—21 to 33 inches; very gravelly loam

Layer 4—33 to 60 inches; stratified very gravelly loamy 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: Medium

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: 6c

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions**Heist and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Lower fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Heist and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Geer and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Chuckridge and similar soils

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1151—Watoopah-Zoda-Sevenmile association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,850 to 6,100

Precipitation: 8 to 10 inches

Air temperature: 46 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Watoopah gravelly loamy sand, warm, 0 to 4 percent slopes—45 percent

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

Sevenmile ashy sandy loam, 0 to 2 percent slopes—15 percent

Handpah gravelly sandy loam, 2 to 4 percent slopes—5 percent

Littleailie gravelly sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Watoopah and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from volcanic ash, welded tuff, and rhyolite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; gravelly loamy sand

Layer 2—4 to 14 inches; sandy loam

Layer 3—14 to 40 inches; gravelly loamy sand

Layer 4—40 to 60 inches; stratified very gravelly coarse sand to coarse 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Zoda and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 8 percent fine gravel, 7 percent gravel

Layer 1—0 to 5 inches; gravelly ashy sandy loam

Layer 2—5 to 15 inches; gravelly ashy sandy clay loam

Layer 3—15 to 24 inches; gravelly ashy sandy clay loam

Layer 4—24 to 32 inches; cemented material

Layer 5—32 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Handpah and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Littleailie and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1154—Qwynn-Ragnel association**Map Unit Setting**

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,960 to 6,600

Precipitation: 8 to 10 inches

Air temperature: 47 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Qwynn gravelly coarse sandy loam, 0 to 2 percent slopes—45 percent

Ragnel very gravelly loamy sand, 0 to 4 percent slopes—40 percent

Ravendog loam, 0 to 2 percent slopes—5 percent

Veet very gravelly sandy loam, 0 to 2 percent slopes—5 percent

Crestline fine sandy loam, 0 to 2 percent slopes—5 percent

Component Description**Qwynn and similar soils**

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 15 percent gravel

Layer 1—0 to 3 inches; gravelly coarse sandy loam

Layer 2—3 to 28 inches; gravelly sandy loam

Layer 3—28 to 52 inches; gravelly sandy clay loam

Layer 4—52 to 70 inches; very gravelly coarse 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 6 inches

Present flooding: Very rare

Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Ragnel and similar soils

Landform: Barrier beaches
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly loamy sand
 Layer 2—3 to 11 inches; very gravelly sandy loam
 Layer 3—11 to 60 inches; very gravelly 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: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Veet and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Crestline and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs

Ecological site: R028AY001NV—Silt flat

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1160—Silent-Koyen association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,150 to 6,000

Precipitation: 6 to 8 inches

Air temperature: 52 to 57 degrees Fahrenheit

Frost-free period: 130 to 160 days

Composition

Silent gravelly sandy loam, 4 to 8 percent slopes—60 percent

Koyen gravelly fine sandy loam, droughty, 2 to 8 percent slopes—30 percent

Riverwash extremely gravelly coarse sand, 0 to 2 percent slopes—5 percent

Tybo gravelly fine sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Silent and similar soils

Landform: Fan remnants

Slope: 4 to 8 percent

Parent material: Alluvium derived from welded tuff and limestone

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 12 inches; clay loam

Layer 3—12 to 17 inches; gravelly clay loam

Layer 4—17 to 27 inches; cemented material

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: Duripan: 10 to 20 inches

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

Salinity: Saline 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: R029XY017NV—Loamy 5-8 P.Z.

Component Description**Koyen and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic rocks with a high component of loess

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

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

Layer 2—4 to 45 inches; sandy loam

Layer 3—45 to 60 inches; gravelly loamy 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: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s

Nonirrigated land capability: 7c

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

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

Contrasting Inclusions**Riverwash**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Drainageways

Tybo and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1170—Haunchee-Hardol-Xine association***Map Unit Setting***

MLRA: 28B

Landscape: Mountains

Elevation: 7,500 to 8,600

Precipitation: 14 to 22 inches

Air temperature: 36 to 44 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Haunchee very cobbly loam, 15 to 50 percent slopes—50 percent

Hardol very gravelly silt loam, 30 to 50 percent slopes—20 percent

Xine very gravelly loam, 15 to 30 percent slopes—15 percent

Hardzem channery loam, 30 to 50 percent slopes—5 percent

Haunchee very cobbly loam, 8 to 30 percent slopes—5 percent

Rock outcrop, 15 to 50 percent slopes—5 percent

Component Description**Haunchee and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone, shale, and dolomite

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; very gravelly loam

Layer 3—19 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: Lithic bedrock: 10 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: R028BY032NV—Stony mahogany savanna

Component Description**Hardol and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Letterman needlegrass, Columbia needlegrass, mountain brome, slender wheatgrass, spike fescue, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, snowberry

Typical profile:

Layer 1—0 to 8 inches; very gravelly silt loam
 Layer 2—8 to 33 inches; extremely gravelly silt loam
 Layer 3—33 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: High
 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: 7s
 Ecological site: R028BY085NV—Calcareous loam 16+ P.Z.

Component Description**Xine and similar soils**

Landform: Backslopes of mountains
 Slope: 15 to 30 percent
 Parent material: Residuum and colluvium derived from shale and limestone
 Typical vegetation: Basin wildrye, Canby bluegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very gravelly loam
 Layer 2—10 to 35 inches; very cobbly loam
 Layer 3—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: Paralithic bedrock: 20 to 39 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: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028BY088NV—Calcareous loam 14-16 P.Z.

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

Contrasting Inclusions**Hardzem and similar soils**

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of upper mountains, northwest to northeast aspects

Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir

Ecological site: F028BY063NV

Haunchee and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Shoulders of mountains

Typical vegetation: Columbia needlegrass, western needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs

Ecological site: R028BY043NV—Calcareous mahogany savanna

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1171—Haunchee-Hardzem-Rock outcrop association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 6,850 to 9,750

Precipitation: 16 to 27 inches

Air temperature: 36 to 44 degrees Fahrenheit

Frost-free period: 50 to 70 days

Composition

Haunchee very cobbly loam, 30 to 75 percent slopes—40 percent

Hardzem channery loam, 30 to 75 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Guiser extremely cobbly loam, 30 to 75 percent slopes—5 percent

Hardol very gravelly silt loam, 30 to 75 percent slopes—5 percent

Wardbay very gravelly loam, 30 to 75 percent slopes—5 percent

Component Description

Haunchee and similar soils

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone, shale, and dolomite

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; very gravelly very fine sandy loam

Layer 3—19 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: Lithic bedrock: 10 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: R028BY032NV—Stony mahogany savanna

Component Description

Hardzem and similar soils

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and shale

Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir

Site index: White fir—43 at an age base of 50 years

Typical profile:

Layer 1—0 to 1 inches; channery loam

Layer 2—1 to 21 inches; very channery loam

Layer 3—21 to 52 inches; bedrock

Layer 4—52 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: Paralithic bedrock: 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: 7e

Ecological site: F028BY063NV

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions

Guiser and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—quaking aspen, white fir Forest understory—mountain brome, slender wheatgrass, spike fescue, Nevada bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, common juniper, Oregongrape, other shrubs, white fir, quaking aspen

Ecological site: F028BY055NV

Hardol and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, snowberry

Ecological site: R028BY042NV—Mahogany thicket

Wardbay and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Ecological site: R028BY070NV—Shallow loam 16+ P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1172—Haunchee-Wardbay-Hardzem association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 8,500 to 10,000

Precipitation: 14 to 30 inches

Air temperature: 36 to 44 degrees Fahrenheit

Frost-free period: 30 to 70 days

Composition

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

Wardbay very gravelly loam, 15 to 50 percent slopes—30 percent

Hardzem channery loam, 15 to 50 percent slopes—20 percent

Eganroc very stony loam, 30 to 75 percent slopes—5 percent

Hardol very gravelly silt loam, 30 to 75 percent slopes—5 percent

Rock outcrop, 15 to 50 percent slopes—4 percent

Hapgood very gravelly loam, 30 to 50 percent slopes—1 percent

Component Description

Haunchee and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone, shale, and dolomite

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; very gravelly very fine sandy loam

Layer 3—19 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: Lithic bedrock: 10 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: R028BY032NV—Stony mahogany savanna

Component Description

Wardbay and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium derived from limestone and dolomite and/or residuum weathered from limestone and dolomite

Typical vegetation: Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 18 inches; very gravelly loam

Layer 2—18 to 45 inches; extremely cobbly silt loam

Layer 3—45 to 55 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: Lithic bedrock: 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: R028BY070NV—Shallow loam 16+ P.Z.

Component Description

Hardzem and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and shale

Typical vegetation: Forest canopy—white fir Forest understory—mountain big sagebrush, spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, common juniper, Oregongrape, other shrubs, white fir

Site index: White fir—43 at an age base of 50 years

Typical profile:

Layer 1—0 to 1 inches; channery loam

Layer 2—1 to 21 inches; very channery loam

Layer 3—21 to 52 inches; bedrock

Layer 4—52 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: Paralithic bedrock: 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: 7e

Ecological site: F028BY063NV

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

Contrasting Inclusions

Eganroc and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, other shrubs, white fir, limber pine, Great Basin bristlecone pine

Ecological site: F028BY049NV

Hardol and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curllleaf mountainmahogany, snowberry

Ecological site: R028BY042NV—Mahogany thicket

Rock outcrop

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Hapgood and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Letterman needlegrass, bluegrass, other perennial grasses, other perennial forbs, slender buckwheat, other shrubs, penstemon, lupine

Ecological site: R028BY051NV—Snowpocket

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1180—Eoj-Mclvey association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 6,400 to 9,200

Precipitation: 12 to 18 inches

Air temperature: 40 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Eoj very stony loam, 15 to 30 percent slopes—40 percent

Eoj very stony loam, 4 to 15 percent slopes—30 percent

Mclvey gravelly loam, 8 to 30 percent slopes—15 percent

Hutchley very gravelly loam, 15 to 50 percent slopes—6 percent

Rock outcrop, 4 to 30 percent slopes—5 percent

Tusel cobbly loam, 15 to 50 percent slopes—4 percent

Component Description

Eoj and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from quartzite and limestone

Typical vegetation: Western needlegrass, pine needlegrass, Thurber's needlegrass, muttongrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 60 inches; cobbly 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)

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: R028BY037NV—Claypan 12-14 P.Z.

Component Description

Eoj and similar soils

Landform: Backslopes of mountains
 Slope: 4 to 15 percent
 Parent material: Residuum and colluvium derived from quartzite and limestone
 Typical vegetation: Western needlegrass, pine needlegrass, Thurber's needlegrass, muttongrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 6 inches; very stony loam
 Layer 2—6 to 60 inches; cobbly 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): 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: 7s
 Ecological site: R028BY037NV—Claypan 12-14 P.Z.

Component Description

McIvey and similar soils

Landform: Backslopes of mountains
 Slope: 8 to 30 percent
 Parent material: Alluvium or colluvium derived from quartzite and shale
 Typical vegetation: Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 13 inches; gravelly loam
 Layer 2—13 to 18 inches; very gravelly loam
 Layer 3—18 to 23 inches; very gravelly clay loam
 Layer 4—23 to 62 inches; very gravelly clay
 Layer 5—62 to 80 inches; extremely cobbly 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): 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: 6e
 Ecological site: R028BY030NV—Loamy 12-16 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 6 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, other perennial grasses, other perennial forbs, low sagebrush, black sagebrush, other shrubs
 Ecological site: R028BY034NV—Mountain ridge 12-14 P.Z.

Rock outcrop

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Mountains

Tusel and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Other perennial grasses, slender wheatgrass, mountain brome, Idaho fescue, bluegrass, mountain big sagebrush, snowberry, Utah serviceberry, western chokecherry, other shrubs, other perennial forbs
 Ecological site: R025XY004NV—Loamy slope 16+ P.Z.

Management

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

1190—Pookaloo-Cavehill-Rock outcrop association

Map Unit Setting

MLRA: 28B
 Landscape: Mountains
 Elevation: 6,200 to 9,400
 Precipitation: 12 to 16 inches
 Air temperature: 41 to 50 degrees Fahrenheit
 Frost-free period: 60 to 115 days

Composition

Pookaloo very gravelly loam, 15 to 50 percent slopes—40 percent
 Cavehill gravelly loam, dry, 15 to 50 percent slopes—30 percent
 Rock outcrop, 30 to 75 percent slopes—15 percent
 Cavehill gravelly loam, 15 to 50 percent slopes—5 percent

Tecomar extremely gravelly silt loam, 15 to 50 percent slopes—5 percent

Xine very gravelly loam, 15 to 30 percent slopes—3 percent

Onkeyo very gravelly silt loam, 8 to 15 percent slopes—2 percent

Component Description

Pookaloo and similar soils

Landform: Mountains, south aspect

Slope: 15 to 50 percent

Parent material: Alluvium derived from welded tuff and minor components of limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—40 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 14 inches; very gravelly loam

Layer 3—14 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: Lithic bedrock: 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: F028BY060NV

Component Description

Cavehill and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone, dolomite and loess

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:

Surface rock fragments: About 30 percent fine gravel, 30 percent gravel, 5 percent cobbles

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 10 inches; gravelly loam

Layer 3—10 to 27 inches; very cobbly loam

Layer 4—27 to 31 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: Lithic bedrock: 20 to 39 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: F028BY062NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

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

Contrasting Inclusions

Cavehill and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains, north aspect
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon
 Ecological site: F028BY062NV

Tecomar and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Mountains
 Typical vegetation: Indian ricegrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs
 Ecological site: R028BY008NV—Shallow calcareous slope 10-14 P.Z.

Xine and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Basin wildrye, Canby bluegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs
 Ecological site: R028BY088NV—Calcareous loam 14-16 P.Z.

Onkeyo and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 15 percent
 Landform: Backslopes of mountains, north aspect
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, other shrubs
 Ecological site: R028BY079NV—Shallow loam 10-14 P.Z.

Management

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

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

1200—Urmafot-Bobs-Palinor association

Map Unit Setting

MLRA: 28B
 Landscape: Fan piedmont
 Elevation: 6,050 to 7,500
 Precipitation: 8 to 16 inches
 Air temperature: 43 to 48 degrees Fahrenheit
 Frost-free period: 70 to 120 days

Composition

Urmafot very gravelly loam, 2 to 8 percent slopes—40 percent
 Bobs very gravelly loam, 8 to 30 percent slopes—25 percent
 Palinor gravelly loam, 2 to 8 percent slopes—20 percent
 Pookaloo very gravelly loam, 15 to 50 percent slopes—7 percent
 Shantown gravelly loamy sand, 0 to 4 percent slopes—5 percent
 Urmafot very gravelly loam, 8 to 15 percent slopes—2 percent
 Tulase silt loam, 0 to 4 percent slopes—1 percent

Component Description

Urmafot and similar soils

Landform: Upper fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very gravelly loam
 Layer 2—10 to 20 inches; gravelly loam
 Layer 3—20 to 39 inches; cemented material
 Layer 4—39 to 60 inches; stratified extremely gravelly coarse sandy loam to extremely gravelly sandy loam

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: Duripan: 9 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: R028BY006NV—Shallow calcareous loam 10-14 P.Z.

Component Description

Bobs and similar soils

Landform: Upper fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone and dolomite with a component of loess high in volcanic ash

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 14 inches; gravelly loam

Layer 3—14 to 20 inches; cemented material

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: Petrocalcic: 10 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: R028BY094NV—Calcareous loam 10-14 P.Z.

Component Description

Palinor and similar soils

Landform: Lower fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:

Layer 1—0 to 10 inches; gravelly loam

Layer 2—10 to 18 inches; extremely gravelly fine sandy loam

Layer 3—18 to 30 inches; cemented material

Layer 4—30 to 60 inches; stratified gravelly sandy loam to extremely gravelly coarse sand

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: Duripan: 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: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Pookaloo and similar soils

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Rock pediments, north to east aspects

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon

Ecological site: F028BY060NV

Shantown and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush

Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Urmafot and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028BY008NV—Shallow calcareous slope 10-14 P.Z.

Tulase and similar soils

Composition: 0 to 1 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Thickspike wheatgrass, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1210—Palinor very gravelly loam, 2 to 15 percent slopes

Map Unit Setting

MLRA: 28B

Landscape: Fan piedmont

Elevation: 5,400 to 6,600

Precipitation: 8 to 10 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Palinor very gravelly loam, 2 to 15 percent slopes—85 percent
 Parisa gravelly loam, 2 to 8 percent slopes—4 percent
 Rebel sandy loam, 0 to 4 percent slopes—3 percent
 Hessing silt loam, 0 to 1 percent slopes—2 percent
 Linoyer gravelly fine sandy loam, 0 to 4 percent slopes—2 percent
 Zerk gravelly loam, 0 to 4 percent slopes—2 percent
 Zimbob very gravelly loam, 8 to 15 percent slopes—2 percent

Component Description**Palinor and similar soils**

Landform: Fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very gravelly loam

Layer 2—10 to 18 inches; extremely gravelly fine sandy loam

Layer 3—18 to 30 inches; cemented material

Layer 4—30 to 60 inches; stratified gravelly sandy loam to extremely gravelly coarse sand

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: Duripan: 14 to 20 inches

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

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: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions**Parisa and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Rebel and similar soils

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Other perennial grasses, Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Hessing and similar soils

Composition: 0 to 2 percent

Slope: 0 to 1 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other perennial grasses, bottlebrush squirreltail, other perennial forbs, bud sagebrush, shadscale, other shrubs

Ecological site: R028BY017NV—Loamy 5-8 P.Z.

Linoyer and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, winterfat, other shrubs

Ecological site: R028BY084NV—Coarse silty 6-8 P.Z.

Zerk and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, shadscale, winterfat, Douglas rabbitbrush, bud sagebrush

Ecological site: R028BY075NV—Coarse gravelly loam 6-8 P.Z.

Zimbob and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Hills

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs

Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1211—Palinor-Urmafot-Urmafot, very shallow association

Map Unit Setting

MLRA: 28B

Landscape: Fan piedmont

Elevation: 6,000 to 7,600

Precipitation: 8 to 16 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Palinor gravelly loam, 8 to 15 percent slopes—45 percent

Urmafot gravelly sandy loam, 2 to 8 percent slopes—25 percent
 Urmafot gravelly loam, 4 to 15 percent slopes—15 percent
 Xine very gravelly loam, 15 to 30 percent slopes—5 percent
 Izar very gravelly loam, 8 to 30 percent slopes—5 percent
 Tulase silt loam, 2 to 4 percent slopes—3 percent
 Pern silt loam, 2 to 4 percent slopes—2 percent

Component Description

Palinor and similar soils

Landform: Fan remnants

Slope: 8 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 16 inches; extremely gravelly fine sandy loam

Layer 3—16 to 35 inches; cemented material

Layer 4—35 to 60 inches; stratified gravelly sandy loam to extremely gravelly coarse sand

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: Duripan: 14 to 20 inches

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

Available water capacity: About 1.3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Urmafot and similar soils

Landform: Upper fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 10 inches; gravelly sandy loam

Layer 2—10 to 20 inches; gravelly loam

Layer 3—20 to 39 inches; cemented material

Layer 4—39 to 60 inches; stratified extremely gravelly coarse sandy loam to extremely gravelly sandy loam

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: Duripan: 9 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: R028BY006NV—Shallow calcareous loam 10-14 P.Z.

Component Description

Urmafot and similar soils

Landform: Fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's
 needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs,
 black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon
 Site index: Utah juniper—25 at an age base of 100 years
 Site index: Singleleaf pinyon—25 at an age base of 100 years

Typical profile:

Layer 1—0 to 10 inches; gravelly loam
 Layer 2—10 to 20 inches; gravelly loam
 Layer 3—20 to 39 inches; cemented material
 Layer 4—39 to 60 inches; stratified extremely gravelly coarse sandy loam to extremely gravelly sandy loam

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: Duripan: 9 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: 7s
 Ecological site: F028BY060NV

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

Contrasting Inclusions

Xine and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, other perennial grasses, bluebunch wheatgrass,
 other perennial forbs, big sagebrush, other shrubs
 Ecological site: R028BY094NV—Calcareous loam 10-14 P.Z.

Izar and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Rock pediments

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs

Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Tulase and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Thickspike wheatgrass, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Pern and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028BY003NV—Loamy bottom 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1212—Palinor-Yody-Broland association***Map Unit Setting***

MLRA: 28B

Landscape: Fan piedmont

Elevation: 6,500 to 6,700

Precipitation: 8 to 10 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Palinor gravelly loam, 2 to 8 percent slopes—40 percent

Yody gravelly sandy loam, 2 to 8 percent slopes—25 percent

Broland very gravelly loam, 4 to 15 percent slopes—20 percent

Sodhouse gravelly loam, 4 to 15 percent slopes—5 percent

Abgese sandy loam, 2 to 8 percent slopes—4 percent

Enko sandy loam, 2 to 8 percent slopes—4 percent

Linoyer gravelly fine sandy loam, 0 to 4 percent slopes—2 percent

Component Description**Palinor and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:

Layer 1—0 to 10 inches; gravelly loam

Layer 2—10 to 18 inches; extremely gravelly fine sandy loam

Layer 3—18 to 30 inches; cemented material

Layer 4—30 to 60 inches; stratified gravelly sandy loam to extremely gravelly coarse sand

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: Duripan: 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: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Yody and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic rocks

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

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 30 inches; gravelly sandy clay loam

Layer 3—30 to 36 inches; gravelly sandy loam

Layer 4—36 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: 30 to 39 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

Irrigated land capability: 3e

Nonirrigated land capability: 6s
 Ecological site: R028BY086NV—Gravelly clay 10-12 P.Z.

Component Description

Broland and similar soils

Landform: Fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 9 inches; gravelly clay loam
 Layer 3—9 to 16 inches; extremely gravelly sandy clay loam
 Layer 4—16 to 19 inches; very gravelly sandy loam
 Layer 5—19 to 40 inches; cemented material
 Layer 6—40 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: 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 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028BY089NV—Shallow clay loam 10-12 P.Z.

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

Contrasting Inclusions

Sodhouse and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, winterfat, other shrubs
 Ecological site: R028BY084NV—Coarse silty 6-8 P.Z.

Abgese and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Enko and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush

Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Linoyer and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, winterfat, other shrubs

Ecological site: R028BY084NV—Coarse silty 6-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1215—Ursine-Jarab association**Map Unit Setting**

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,050 to 7,500

Precipitation: 8 to 14 inches

Air temperature: 49 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ursine gravelly loam, 2 to 15 percent slopes—50 percent

Jarab very gravelly sandy loam, 4 to 15 percent slopes—40 percent

Lodar very gravelly loam, 15 to 30 percent slopes—5 percent

Ravendog loam, 2 to 8 percent slopes—4 percent

Bigspring gravelly sandy loam, 2 to 4 percent slopes—1 percent

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: 7e

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Jarab and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and from quartzite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs

Site index: Utah juniper—65 at an age base of 100 years

Site index: Singleleaf pinyon—65 at an age base of 100 years

Typical profile:

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

Layer 2—4 to 13 inches; very gravelly loam

Layer 3—13 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: 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: R028AY043NV—Shallow calcareous loam 10-14 P.Z.

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

Contrasting Inclusions

Lodar and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Ravendog and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Bigspring and similar soils

Composition: 0 to 1 percent

Slope: 2 to 4 percent

Landform: Basin floor remnants

Typical vegetation: Basin wildrye, western wheatgrass, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush

Ecological site: R028AY090NV—Loamy bottom 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1220—Lien-Devildog association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,400 to 6,550

Precipitation: 8 to 10 inches

Air temperature: 50 to 53 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

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

Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—35 percent

Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—3 percent

Farepeak very gravelly ashy loam, 15 to 30 percent slopes—2 percent

Component Description

Lien and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from tuff with minor amounts of volcanic ash

Typical vegetation: Other perennial forbs, black sagebrush, Nevada ephedra, muttongrass, other shrubs, other trees, Indian ricegrass, Thurber's needlegrass, blue grama, needleandthread, other perennial grasses

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam

Layer 2—3 to 8 inches; very gravelly fine sandy loam
 Layer 3—8 to 24 inches; cemented material
 Layer 4—24 to 60 inches; cemented material

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: Duripan: 6 to 14 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 0.5 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY104NV—Shallow clay loam 8-12 P.Z.

Component Description

Devildog and similar soils

Landform: Inset fans
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from welded tuff with additions of volcanic ash
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel
 Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam
 Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam
 Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam
 Layer 4—38 to 60 inches; gravelly sandy 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: Moderate)
 Available water capacity: About 5 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Riverwash

Composition: 0 to 3 percent
 Slope: 0 to 4 percent

Landform: Drainageways

Farepeak and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY099NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1230—Yotes-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,400 to 7,000

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Yotes gravelly ashy sandy loam, 2 to 8 percent slopes—65 percent

Sevenmile ashy sandy loam, 0 to 4 percent slopes—20 percent

Chuckridge gravelly loam, 4 to 15 percent slopes—5 percent

Geer fine sandy loam, 0 to 4 percent slopes—5 percent

Kolda silt loam, 0 to 2 percent slopes—5 percent

Component Description

Yotes and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 7 percent gravel, 8 percent fine gravel

Layer 1—0 to 12 inches; gravelly ashy sandy loam

Layer 2—12 to 21 inches; gravelly ashy loam

Layer 3—21 to 60 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 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff and some limestone and quartzite
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
 Layer 1—0 to 11 inches; ashy sandy loam
 Layer 2—11 to 35 inches; loam
 Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)
 Available water capacity: About 10 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Chuckridge and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs
 Ecological site: R028AY050NV—Gravelly clay 10-12 P.Z.

Geer and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Kolda and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1231—Newvil-Nevu-Ponyspring association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,300 to 7,500

Precipitation: 10 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Newvil very gravelly coarse sandy loam, 4 to 30 percent slopes—50 percent

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

Ponyspring gravelly ashy loamy fine sand, 4 to 15 percent slopes—15 percent

Sevenmile ashy sandy loam, moist, 0 to 4 percent slopes—5 percent

Littleailie gravelly sandy loam, 2 to 15 percent slopes—3 percent

Modem very gravelly ashy sandy loam, 2 to 8 percent slopes—3 percent

Okayview gravelly ashy coarse sandy loam, 2 to 8 percent slopes—3 percent

Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—1 percent

Component Description

Newvil and similar soils

Landform: Fan remnants

Slope: 4 to 30 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, blue grama, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, Nevada ephedra, muttongrass, other shrubs, other trees

Typical profile:

Layer 1—0 to 3 inches; very gravelly coarse sandy loam

Layer 2—3 to 12 inches; gravelly sandy clay loam

Layer 3—12 to 17 inches; gravelly loam

Layer 4—17 to 48 inches; cemented material

Layer 5—48 to 60 inches; very gravelly coarse sand

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: Duripan: 15 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: R029XY104NV—Shallow clay loam 8-12 P.Z.

Component Description**Nevu and similar soils**

Landform: Summits of upper fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Stansbury cliffrose, other shrubs, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush

Typical profile:

Layer 1—0 to 5 inches; gravelly ashy sandy loam

Layer 2—5 to 27 inches; gravelly ashy sandy clay loam

Layer 3—27 to 36 inches; cemented material

Layer 4—36 to 60 inches; gravelly ashy sandy loam

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: Duripan: 20 to 27 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: R029XY029NV—Loamy 10-12 P.Z.

Component Description**Ponyspring and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, Thurber's needlegrass, basin wildrye, muttongrass, other perennial grasses

Typical profile:

Surface rock fragments: About 40 percent gravel

Layer 1—0 to 6 inches; gravelly ashy loamy fine sand

Layer 2—6 to 30 inches; gravelly ashy sandy clay loam

Layer 3—30 to 60 inches; gravelly ashy coarse 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): Moderately High, (Permeability class: Slow)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R028AY092NV—Loamy 12-14 P.Z.

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

Contrasting Inclusions

Sevenmile and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Littleailie and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Modem and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, Stansbury cliffrose, other shrubs

Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Okayview and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Rock pediments

Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, Stansbury cliffrose, other shrubs

Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Qwynn and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1232—Nevu-Ponyspring-Okayview association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,400 to 7,250

Precipitation: 10 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Nevu gravelly ashy sandy loam, 0 to 8 percent slopes—35 percent

Ponyspring gravelly ashy loamy coarse sand, 0 to 8 percent slopes—30 percent

Okayview gravelly ashy coarse sandy loam, 4 to 15 percent slopes—20 percent

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

Ravendog loam, 0 to 4 percent slopes—4 percent

Rock outcrop, 4 to 15 percent slopes—4 percent

Schoolmarm gravelly ashy coarse sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Nevu and similar soils

Landform: Summits of upper fan remnants

Slope: 0 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Typical profile:

Layer 1—0 to 5 inches; gravelly ashy sandy loam

Layer 2—5 to 27 inches; gravelly ashy sandy clay loam

Layer 3—27 to 36 inches; cemented material

Layer 4—36 to 60 inches; gravelly ashy sandy loam

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: Duripan: 20 to 27 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: R028AY050NV—Gravelly clay 10-12 P.Z.

Component Description

Ponyspring and similar soils

Landform: Fan remnants
 Slope: 0 to 8 percent
 Parent material: Alluvium derived from welded tuff
 Typical vegetation: Thurber's needlegrass, basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 40 percent gravel
 Layer 1—0 to 6 inches; gravelly ashy loamy coarse sand
 Layer 2—6 to 30 inches; gravelly ashy sandy clay loam
 Layer 3—30 to 60 inches; gravelly ashy coarse 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: Slow)
 Available water capacity: About 7 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R028AY092NV—Loamy 12-14 P.Z.

Component Description

Okayview and similar soils

Landform: Rock pediments
 Slope: 4 to 15 percent
 Parent material: Residuum and colluvium derived from welded tuff
 Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 5 percent gravel, 5 percent fine gravel
 Layer 1—0 to 3 inches; gravelly ashy coarse sandy loam
 Layer 2—3 to 11 inches; ashy sandy 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: High
 Depth to restrictive feature: Paralithic bedrock: 10 to 20 inches

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

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

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

Contrasting Inclusions

Plegomir and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, green ephedra, other shrubs, Utah juniper

Ecological site: F028AY041NV

Ravendog and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Rock outcrop

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Hills

Schoolmarm and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Rock pediments

Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028AY094NV—Claypan 12-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1240—Sycomat-Escalante-Gravier association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,600 to 5,950
 Precipitation: 6 to 10 inches
 Air temperature: 46 to 52 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Sycomat gravelly sandy loam, 0 to 2 percent slopes—65 percent
 Escalante very gravelly sandy loam, 0 to 2 percent slopes—15 percent
 Gravier gravelly loam, 0 to 4 percent slopes—15 percent
 Heist loamy sand, 0 to 4 percent slopes—5 percent

Component Description

Sycomat and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 5 inches; gravelly sandy loam
 Layer 2—5 to 26 inches; gravelly loam
 Layer 3—26 to 45 inches; sandy loam
 Layer 4—45 to 60 inches; very 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): 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: 7s
 Ecological site: R028AY018NV—Coarse gravelly loam 5-8 P.Z.

Component Description

Escalante and similar soils

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from rhyolite and some limestone
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam
 Layer 2—3 to 27 inches; gravelly sandy loam
 Layer 3—27 to 60 inches; very gravelly 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 6 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Component Description

Gravier and similar soils

Landform: Fan skirts
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from limestone and welded tuff
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, Nevada ephedra, greenmolly kochia, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly loam
 Layer 2—4 to 41 inches; stratified extremely gravelly coarse sandy loam to very gravelly loam
 Layer 3—41 to 65 inches; extremely gravelly 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): Moderately High, (Permeability class: Moderate)
 Sodicity: Sodic within 40 inches
 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: R028AY012NV—Loamy 5-8 P.Z.

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

Contrasting Inclusions

Heist and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Management

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

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

1270—Heusser-Wambolt association***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,500 to 8,500

Precipitation: 14 to 16 inches

Air temperature: 40 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Heusser extremely gravelly loam, 8 to 30 percent slopes—55 percent

Wambolt extremely gravelly loam, 8 to 30 percent slopes—30 percent

Fax very cobbly coarse sandy loam, 15 to 30 percent slopes—7 percent

Badena very cobbly loam, 8 to 30 percent slopes—5 percent

Hackwood gravelly silt loam, 15 to 50 percent slopes—3 percent

Component Description**Heusser and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from quartzite

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Surface rock fragments: About 35 percent gravel, 20 percent cobbles, 10 percent stones

Layer 1—0 to 12 inches; extremely gravelly loam

Layer 2—12 to 24 inches; extremely gravelly loam

Layer 3—24 to 60 inches; extremely gravelly 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 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description**Wambolt and similar soils**

Landform: Summits of fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium and colluvium derived from quartzite

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Typical profile:

Layer 1—0 to 10 inches; extremely gravelly loam

Layer 2—10 to 36 inches; extremely gravelly clay loam

Layer 3—36 to 60 inches; extremely gravelly 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): 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: R028AY059NV—Mahogany savanna

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

Contrasting Inclusions**Fax and similar soils**

Composition: 0 to 7 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush

Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Badena and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Lower fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Hackwood and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—quaking aspen Forest understory—other shrubs, meadowrue, snowberry, nodding brome, other perennial forbs, other perennial grasses, quaking aspen, slender wheatgrass, needlegrass, mountain big sagebrush, mountain brome

Ecological site: R028AY073NV—Aspen thicket

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1280—Badena very cobbly loam, 2 to 8 percent slopes***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,250 to 7,350

Precipitation: 10 to 14 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Badena very cobbly fine sandy loam, 2 to 15 percent slopes—90 percent

Badena very cobbly loam, 8 to 15 percent slopes—7 percent

Zafod very gravelly sandy loam, 4 to 8 percent slopes—3 percent

Component Description**Badena and similar soils**

Landform: Fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from quartzite

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 5 inches; very cobbly fine sandy loam

Layer 2—5 to 10 inches; very cobbly loam

Layer 3—10 to 25 inches; extremely cobbly sandy clay loam

Layer 4—25 to 60 inches; extremely cobbly loamy 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)

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: R028AY095NV—Loamy 10-12 P.Z.

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

Contrasting Inclusions**Badena and similar soils**

Composition: 0 to 7 percent

Slope: 8 to 15 percent

Landform: Lower fan remnants

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028AY066NV—Gravelly loam 12-14 P.Z.

Zafod and similar soils

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1291—Zimbob-Pookaloo-Cavehill association***Map Unit Setting***

MLRA: 28B

Landscape: Mountains

Elevation: 5,800 to 8,800

Precipitation: 12 to 16 inches

Air temperature: 41 to 50 degrees Fahrenheit

Frost-free period: 70 to 115 days

Composition

Zimbob very gravelly sandy loam, 8 to 30 percent slopes—35 percent

Pookaloo very gravelly loam, 15 to 50 percent slopes—30 percent

Cavehill gravelly loam, dry, 15 to 50 percent slopes—20 percent

Tecomar extremely gravelly loam, 4 to 15 percent slopes—8 percent

Rock outcrop, 50 to 75 percent slopes—7 percent

Component Description**Zimbob and similar soils**

Landform: Backslopes of lower mountains, west to south aspects

Slope: 8 to 30 percent

Parent material: Residium and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs

Typical profile:

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

Layer 2—2 to 11 inches; very gravelly 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: Lithic bedrock: 10 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: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Pookaloo and similar soils

Landform: Mountains, north to east aspects

Slope: 15 to 50 percent

Parent material: Alluvium derived from welded tuff and minor components of limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon

Site index: Utah juniper—20 at an age base of 100 years

Site index: Singleleaf pinyon—20 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 14 inches; very gravelly loam

Layer 3—14 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: Lithic bedrock: 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: F028BY060NV

Component Description

Cavehill and similar soils

Landform: Backslopes of upper mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone, dolomite and loess

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:

Surface rock fragments: About 30 percent fine gravel, 30 percent gravel, 5 percent cobbles

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 10 inches; gravelly loam

Layer 3—10 to 27 inches; very cobbly loam

Layer 4—27 to 31 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: Lithic bedrock: 20 to 39 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: F028BY062NV

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

Contrasting Inclusions

Tecomar and similar soils

Composition: 0 to 8 percent

Slope: 4 to 15 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028BY008NV—Shallow calcareous slope 10-14 P.Z.

Rock outcrop

Composition: 0 to 7 percent

Slope: 50 to 75 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1300—Pioche-Birchcreek-Cropper association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 6,200 to 8,050

Precipitation: 12 to 16 inches

Air temperature: 41 to 50 degrees Fahrenheit

Frost-free period: 75 to 110 days

Composition

Pioche extremely stony loam, 15 to 50 percent slopes—50 percent

Birchcreek very cobbly sandy loam, 15 to 50 percent slopes—20 percent

Cropper very cobbly loam, 15 to 50 percent slopes—15 percent

Upatad very gravelly silt loam, 15 to 50 percent slopes—5 percent

Cassiro family cobbly loam, 8 to 30 percent slopes—5 percent

Selti very stony coarse sandy loam, 2 to 8 percent slopes—3 percent
 Rock outcrop, 15 to 50 percent slopes—2 percent

Component Description

Pioche and similar soils

Landform: Mountains, south aspect

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:

Layer 1—0 to 2 inches; extremely stony loam

Layer 2—2 to 13 inches; very cobbly clay

Layer 3—13 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: Lithic bedrock: 6 to 15 inches

Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: 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: F028BY062NV

Component Description

Birchcreek and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Alluvium derived from andesite over colluvium derived from andesite

Typical vegetation: Indian ricegrass, western needlegrass, Thurber's needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Layer 1—0 to 3 inches; very cobbly sandy loam

Layer 2—3 to 13 inches; very cobbly clay loam

Layer 3—13 to 21 inches; very cobbly clay

Layer 4—21 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: Lithic bedrock: 20 to 39 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: 6s
 Ecological site: R028BY046NV—Gravelly loam 12-14 P.Z.

Component Description

Cropper and similar soils

Landform: Backslopes of mountains, north aspect
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from andesite
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, bluebunch wheatgrass, serviceberry, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, snowberry, singleleaf pinyon
 Site index: Singleleaf pinyon—70 at an age base of 100 years

Typical profile:

Layer 1—0 to 4 inches; very cobbly loam
 Layer 2—4 to 15 inches; extremely gravelly clay loam
 Layer 3—15 to 20 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: Lithic bedrock: 14 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: F028BY058NV

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

Contrasting Inclusions

Upatad and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Mountains
 Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, black sagebrush
 Ecological site: R028BY093NV—Shallow clay loam 12-14 P.Z.

Cassiro family and similar soils

Composition: 0 to 5 percent
 Classification: Clayey-skeletal, smectitic, mesic Aridic Argixerolls
 Slope: 8 to 30 percent
 Landform: Fan remnants

Typical vegetation: Indian ricegrass, western needlegrass, Thurber's needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R028BY046NV—Gravelly loam 12-14 P.Z.

Selti and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush

Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1307—Kyler-Amtoft-Eaglepass association

Map Unit Setting

MLRA: 28A

Landscape: Hills

Elevation: 6,150 to 7,400

Precipitation: 8 to 12 inches

Air temperature: 48 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Kyler extremely cobbly loam, cool, 8 to 30 percent slopes—50 percent

Amtoft very gravelly loam, moist, 15 to 30 percent slopes—20 percent

Eaglepass extremely stony loam, cool, 15 to 50 percent slopes—15 percent

Lodar very gravelly loam, 8 to 30 percent slopes—6 percent

Rock outcrop, 15 to 50 percent slopes—5 percent

Baberwit sandy loam, 2 to 15 percent slopes—4 percent

Component Description

Kyler and similar soils

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very gravelly loam
 Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Amtoft and similar soils

Landform: Backslopes of hills, north aspect
 Slope: 15 to 30 percent
 Parent material: Residuum weathered from limestone, sandstone, and shale
 Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 11 inches; very gravelly loam
 Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 1.0 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Eaglepass and similar soils

Landform: Hills
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite
 Typical vegetation: Littleleaf mountain mahogany, other shrubs, Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush

Typical profile:

Surface rock fragments: About 15 percent stones, 10 percent cobbles, 60 percent gravel

Layer 1—0 to 2 inches; extremely stony loam

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY029NV—Limestone hill

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

Contrasting Inclusions**Lodar and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Baberwit and similar soils

Composition: 0 to 4 percent

Slope: 2 to 15 percent

Landform: Lower hills

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R028AY007NV—Gravelly barren fan

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1310—Duffer-Kolda association***Map Unit Setting***

MLRA: 28B

Landscape: Basin floors

Elevation: 6,400 to 6,750

Precipitation: 7 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Duffer silt loam, moist, 0 to 2 percent slopes—40 percent

Duffer silt loam, 0 to 2 percent slopes, frequently flooded—30 percent

Kolda silt loam, 0 to 2 percent slopes—15 percent

Sheffit silt loam, 0 to 2 percent slopes—10 percent

Boofuss silty clay, 0 to 2 percent slopes—5 percent

Component Description**Duffer and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Loess, alluvium and lacustrine deposits from mixed rock sources

Typical vegetation: Inland saltgrass, basin wildrye, western wheatgrass, other perennial forbs, other perennial grasses, black greasewood, alkali sacaton, other shrubs

Typical profile:

Layer 1—0 to 11 inches; silt loam

Layer 2—11 to 48 inches; silty clay loam

Layer 3—48 to 66 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: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4w

Nonirrigated land capability: 7w

Ecological site: R028BY004NV—Saline bottom

Component Description**Duffer and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Loess, alluvium and lacustrine deposits from mixed rock sources

Typical vegetation: Sedge, inland saltgrass, Baltic rush, bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 11 inches; silt loam

Layer 2—11 to 48 inches; silty clay loam

Layer 3—48 to 66 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: Frequent

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w

Nonirrigated land capability: 7w

Ecological site: R028BY002NV—Saline meadow

Component Description

Kolda and similar soils

Landform: Lake plains

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 6 inches; silt loam

Layer 2—6 to 22 inches; silt loam

Layer 3—22 to 60 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)

Salinity: Saline within 40 inches

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: 7w

Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

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

Contrasting Inclusions

Sheffit and similar soils

Composition: 0 to 10 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, black greasewood, other shrubs

Ecological site: R028BY028NV—Sodic terrace 8-10 P.Z.

Boofuss and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Alkali sacaton, other perennial grasses, inland saltgrass, black greasewood, shadscale, other shrubs

Ecological site: R028BY020NV—Sodic flat 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1320—Broland-Yody association

Map Unit Setting

MLRA: 28B

Landscape: Fan piedmont

Elevation: 6,350 to 7,200

Precipitation: 8 to 10 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Broland very gravelly loam, 2 to 8 percent slopes—45 percent

Yody gravelly sandy loam, 2 to 8 percent slopes—40 percent

Palinor gravelly loam, 4 to 15 percent slopes—5 percent

Palinor gravelly loam, 2 to 8 percent slopes—5 percent

Tulase silt loam, 0 to 2 percent slopes—5 percent

Component Description

Broland and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic rock

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

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 9 inches; gravelly clay loam
 Layer 3—9 to 16 inches; extremely gravelly sandy clay loam
 Layer 4—16 to 19 inches; extremely gravelly sandy loam
 Layer 5—19 to 40 inches; cemented material
 Layer 6—40 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: 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 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028BY089NV—Shallow clay loam 10-12 P.Z.

Component Description

Yody and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, spiny hopsage, other shrubs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam
 Layer 2—4 to 30 inches; gravelly sandy clay loam
 Layer 3—30 to 36 inches; gravelly sandy loam
 Layer 4—36 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: 30 to 39 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

Irrigated land capability: 3e
 Nonirrigated land capability: 6s
 Ecological site: R028BY086NV—Gravelly clay 10-12 P.Z.

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

Contrasting Inclusions

Palinor and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs

Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Palinor and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, Sandberg bluegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R028BY040NV—Barren fan 8-12 P.Z.

Tulase and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, thickspike wheatgrass, winterfat, other shrubs

Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1330—Amelar-Eoj-Hardol association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 8,150 to 9,200

Precipitation: 12 to 30 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 100 days

Composition

Amelar gravelly silt loam, 15 to 30 percent slopes—35 percent

Eoj very stony loam, moist, 8 to 30 percent slopes—30 percent

Hardol very gravelly silt loam, 15 to 50 percent slopes—20 percent

Onkeyo very gravelly silt loam, 15 to 50 percent slopes—4 percent

Adobe very gravelly silt loam, 30 to 50 percent slopes—4 percent

Haunchee very cobbly loam, 15 to 50 percent slopes—4 percent

Pharo gravelly loam, 15 to 50 percent slopes—2 percent

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

Component Description

Amelar and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Alluvium and colluvium derived from limestone

Typical vegetation: Indian ricegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 6 inches; gravelly silt loam

Layer 2—6 to 15 inches; very cobbly clay loam

Layer 3—15 to 60 inches; very gravelly 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)

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: R028BY091NV—Gravelly calcareous loam 14+ P.Z.

Component Description

Eoj and similar soils

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from quartzite and limestone

Typical vegetation: Other perennial forbs, other perennial grasses, muttongrass, bluebunch wheatgrass, other shrubs, low sagebrush, antelope bitterbrush

Typical profile:

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 60 inches; cobbly 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): 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: 7s

Ecological site: R028BY092NV—Calcareous claypan 14-16 P.Z.

Component Description

Hardol and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Letterman needlegrass, Columbia needlegrass, mountain brome, slender wheatgrass, spike fescue, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, snowberry

Typical profile:

Layer 1—0 to 8 inches; very gravelly silt loam

Layer 2—8 to 33 inches; extremely gravelly silt loam

Layer 3—33 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: High

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: 7s

Ecological site: R028BY085NV—Calcareous loam 16+ P.Z.

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

Contrasting Inclusions

Onkeyo and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, other shrubs

Ecological site: R028BY079NV—Shallow loam 10-14 P.Z.

Adobe and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Bluebunch wheatgrass, black sagebrush

Ecological site: R028BY027NV—Shallow calcareous slope 14+ P.Z.

Haunchee and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of upper mountains

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Ecological site: R028BY032NV—Stony mahogany savanna

Pharo and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, other shrubs, white fir, limber pine, Great Basin bristlecone pine

Ecological site: F028BY049NV

Kolda and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1340—Heist association***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,950 to 7,050

Precipitation: 8 to 12 inches

Air temperature: 46 to 50 degrees Fahrenheit

Frost-free period: 100 to 135 days

Composition

Heist loamy sand, 2 to 8 percent slopes—45 percent

Heist loamy sand, moist, 0 to 4 percent slopes—40 percent

Ravendog loam, 0 to 4 percent slopes—8 percent

Ravendog loam, 4 to 15 percent slopes—7 percent

Component Description**Heist and similar soils**

Landform: Fan skirts

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff and some limestone

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; loamy sand

Layer 2—8 to 20 inches; fine sandy loam

Layer 3—20 to 60 inches; 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 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Heist and similar soils

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and some limestone

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; loamy sand

Layer 2—8 to 20 inches; fine sandy loam

Layer 3—20 to 60 inches; 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 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 8 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, Wyoming big sagebrush, other shrubs, Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass

Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Ravendog and similar soils

Composition: 0 to 7 percent

Slope: 4 to 15 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1350—Heist-Chuffa association

Map Unit Setting

MLRA: 28A

Landscape:

Elevation: 6,000 to 6,150

Precipitation: 8 to 10 inches

Air temperature: 46 to 50 degrees Fahrenheit

Frost-free period: 100 to 135 days

Composition

Heist loamy sand, 0 to 2 percent slopes—65 percent

Chuffa silt loam, dry, 0 to 2 percent slopes—20 percent

Kunzler loamy sand, 0 to 2 percent slopes—4 percent

Oupico sandy loam, 0 to 2 percent slopes—4 percent

Linoyer very fine sandy loam, 0 to 2 percent slopes—3 percent

Springbar sandy loam, 0 to 4 percent slopes—2 percent

Veet very gravelly sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Heist and similar soils

Landform: Fan skirts

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and some limestone

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; loamy sand

Layer 2—8 to 20 inches; fine sandy loam

Layer 3—20 to 60 inches; 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 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description**Chuffa and similar soils**

Landform: Fan skirts

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits from mixed rock sources

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 3 inches; silt loam

Layer 2—3 to 13 inches; silt loam

Layer 3—13 to 60 inches; 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 12 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R028AY001NV—Silt flat

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

Contrasting Inclusions**Kunzler and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Oupico and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Springbar and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Longshore bar (relict)s

Typical vegetation: Fourwing saltbush, Indian ricegrass, thickspike wheatgrass, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY005NV—Sandy 8-10 P.Z.

Veet and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Barrier beach (relict)s

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1359—Devildog-Gardenvalley-Qwynn association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,050 to 6,000

Precipitation: 6 to 10 inches

Air temperature: 50 to 53 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Devildog very gravelly ashy coarse sandy loam, 0 to 4 percent slopes—35 percent

Gardenvalley gravelly fine sandy loam, 0 to 4 percent slopes—30 percent

Qwynn gravelly coarse sandy loam, 0 to 4 percent slopes—25 percent

Lojet coarse sandy loam, 2 to 4 percent slopes—5 percent

Littleailie gravelly sandy loam, 0 to 4 percent slopes—5 percent

Component Description

Devildog and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; gravelly ashy sandy 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description**Gardenvalley and similar soils**

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and minor amounts of limestone

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 16 inches; very fine sandy loam

Layer 3—16 to 44 inches; fine sandy loam

Layer 4—44 to 62 inches; very gravelly loamy 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: 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: R029XY042NV—Coarse silty 5-8 P.Z.

Component Description**Qwynn and similar soils**

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 15 percent gravel

Layer 1—0 to 3 inches; gravelly coarse sandy loam

Layer 2—3 to 28 inches; gravelly sandy loam

Layer 3—28 to 52 inches; gravelly sandy clay loam

Layer 4—52 to 70 inches; very gravelly coarse 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 6 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Lojet and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Littleailie and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1360—Veet-Armespan association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,950 to 6,100

Precipitation: 8 to 12 inches

Air temperature: 49 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Veet very gravelly sandy loam, dry, 0 to 4 percent slopes—70 percent

Armespan gravelly sandy loam, warm, 2 to 8 percent slopes—20 percent

Penoyer very fine sandy loam, 0 to 1 percent slopes—5 percent

Ravendog loam, 2 to 4 percent slopes—5 percent

Component Description**Veet and similar soils**

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

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

Layer 2—4 to 16 inches; very gravelly sandy loam

Layer 3—16 to 60 inches; stratified very gravelly loamy coarse sand to extremely gravelly 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 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description**Armespan and similar soils**

Landform: Beach terraces

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone, sandstone, and shale

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 35 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 11 inches; gravelly sandy loam
 Layer 3—11 to 22 inches; very gravelly sandy loam
 Layer 4—22 to 60 inches; very gravelly loamy 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Penoyer and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Lake plains

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Ravendog and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1362—Amtoft-Kyler association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,250 to 6,900

Precipitation: 8 to 12 inches

Air temperature: 48 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Kyler extremely cobbly loam, cool, 15 to 50 percent slopes—35 percent
 Amtoft very gravelly loam, dry, 15 to 50 percent slopes—30 percent
 Amtoft gravelly silt loam, 15 to 50 percent slopes—20 percent
 Eaglepass extremely stony loam, 15 to 50 percent slopes—5 percent
 Ungene gravelly loamy sand, 4 to 15 percent slopes—5 percent
 Rock outcrop, 15 to 50 percent slopes—5 percent

Component Description**Kyler and similar soils**

Landform: Mountains, south aspect

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description**Amtoft and similar soils**

Landform: Upper mountains, north aspect

Slope: 15 to 50 percent

Parent material: Residuum weathered from limestone, sandstone, and shale

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Component Description

Amtoft and similar soils

Landform: Backslopes of lower mountains, north aspect

Slope: 15 to 50 percent

Parent material: Residuum weathered from limestone, sandstone, and shale

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose

Typical profile:

Layer 1—0 to 3 inches; gravelly silt loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

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: R028AY034NV—Shallow calcareous slope 10-14 P.Z.

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

Contrasting Inclusions

Eaglepass and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R028AY029NV—Limestone hill

Ungene and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Inset fans

Typical vegetation: Other perennial grasses, galleta, needleandthread, Indian ricegrass, Wyoming big sagebrush, shadscale, other shrubs, other perennial forbs, spiny hopsage, bud sagebrush
 Ecological site: R028AY028NV—Droughty loam 8-10 P.Z.

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1370—Amtoft-Kyler association, warm

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 5,850 to 7,050

Precipitation: 8 to 12 inches

Air temperature: 48 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Amtoft very gravelly loam, warm, 8 to 30 percent slopes—60 percent

Kyler very gravelly very fine sandy loam, cool, 15 to 50 percent slopes—25 percent

Amtoft very gravelly loam, 4 to 8 percent slopes—6 percent

Ursine gravelly loam, 2 to 15 percent slopes—4 percent

Logring very cobbly fine sandy loam, 8 to 30 percent slopes—3 percent

Rock outcrop, 15 to 50 percent slopes—2 percent

Component Description

Amtoft and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 8 to 30 percent

Parent material: Residuum and colluvium weathered from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Kyler and similar soils

Landform: Backslopes of mountains, south aspect
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly very fine sandy loam
 Layer 2—3 to 11 inches; very gravelly very fine sandy loam
 Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

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

Contrasting Inclusions

Amtoft and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 8 percent
 Landform: Backslopes of mountains, north aspect
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees
 Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Ursine and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Logging and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1380—Cavehill-Rock outcrop association***Map Unit Setting***

MLRA: 28B

Landscape: Mountains

Elevation: 6,150 to 9,800

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 90 days

Composition

Cavehill cobbly loam, moist, 15 to 50 percent slopes—45 percent

Cavehill extremely cobbly loam, 30 to 75 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—10 percent

Pookaloo very gravelly loam, 30 to 75 percent slopes—5 percent

Cavehill cobbly loam, 30 to 75 percent slopes—5 percent

Haunchee very cobbly loam, 30 to 75 percent slopes—3 percent

Hardzem channery loam, 30 to 75 percent slopes—2 percent

Component Description**Cavehill and similar soils**

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone, dolomite and loess

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, bluebunch wheatgrass, serviceberry, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, snowberry, singleleaf pinyon

Site index: Singleleaf pinyon—70 at an age base of 100 years

Typical profile:

Layer 1—0 to 14 inches; cobbly loam

Layer 2—14 to 25 inches; very cobbly 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: Lithic bedrock: 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: 7s

Ecological site: F028BY058NV

Component Description

Cavehill and similar soils

Landform: Backslopes of mountains, south aspect

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone, dolomite and loess

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—20 at an age base of 100 years

Typical profile:

Layer 1—0 to 14 inches; extremely cobbly loam

Layer 2—14 to 25 inches; very cobbly 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: Lithic bedrock: 20 to 40 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: F028BY076NV

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions

Pookaloo and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon

Ecological site: F028BY060NV

Cavehill and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Ecological site: F028BY062NV

Haunchee and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, snowberry

Ecological site: R028BY032NV—Stony mahogany savanna

Hardzem and similar soils

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir

Ecological site: F028BY063NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1381—Ursine-Armespan association***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,900 to 6,500

Precipitation: 8 to 10 inches

Air temperature: 50 to 54 degrees Fahrenheit

Frost-free period: 100 to 140 days

Composition

Ursine gravelly loam, 0 to 4 percent slopes—50 percent

Armespan very gravelly sandy loam, 0 to 4 percent slopes—35 percent

Medburn silt loam, 2 to 4 percent slopes—5 percent

Linoyer very fine sandy loam, 2 to 4 percent slopes—4 percent

Summermute gravelly loam, 2 to 8 percent slopes—4 percent

Rubble land, 8 to 15 percent slopes—2 percent

Component Description

Ursine and similar soils

Landform: Summits of upper fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 35 percent gravel, 2 percent cobbles

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 18 inches; very gravelly sandy loam

Layer 4—18 to 70 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Armespan and similar soils

Landform: Summits of lower fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

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

Layer 2—1 to 9 inches; gravelly sandy loam

Layer 3—9 to 19 inches; gravelly loam

Layer 4—19 to 31 inches; very gravelly sandy loam

Layer 5—31 to 60 inches; very 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: Moderate)

Salinity: Saline within 40 inches
 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Medburn and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY030NV—Silty 8-10 P.Z.

Summermute and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Bud sagebrush, Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, shadscale, winterfat, other shrubs
 Ecological site: R028AY018NV—Coarse gravelly loam 5-8 P.Z.

Rubble land

Composition: 0 to 2 percent
 Slope: 8 to 15 percent
 Landform: Backslopes of fan remnants

Management

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

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

1382—Ursine-Medburn association

Map Unit Setting

MLRA: 28A
 Landscape: Fan piedmont

Elevation: 6,050 to 6,400
 Precipitation: 8 to 10 inches
 Air temperature: 48 to 51 degrees Fahrenheit
 Frost-free period: 100 to 140 days

Composition

Ursine gravelly loam, 2 to 8 percent slopes—75 percent
 Medburn silt loam, 0 to 4 percent slopes—15 percent
 Linoyer very fine sandy loam, 0 to 4 percent slopes—5 percent
 Rouette loam, 2 to 8 percent slopes—3 percent
 Amtoft very gravelly loam, 8 to 15 percent slopes—2 percent

Component Description

Ursine and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from limestone with a minor component of quartzite
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam
 Layer 2—2 to 5 inches; gravelly fine sandy loam
 Layer 3—5 to 18 inches; very gravelly sandy loam
 Layer 4—18 to 70 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Medburn and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; silt loam
 Layer 2—8 to 60 inches; 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): Moderately High, (Permeability class: Moderate)

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 7s

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions**Linoyer and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Rouette and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028AY017NV—Shallow loam 8-10 P.Z.

Amtoft and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose

Ecological site: R028AY034NV—Shallow calcareous slope 10-14 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1384—Cavehill-Hauchee association***Map Unit Setting***

MLRA: 28B

Landscape: Mountains

Elevation: 6,700 to 8,200

Precipitation: 13 to 17 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 30 to 85 days

Composition

Cavehill gravelly loam, moist, 30 to 75 percent slopes—35 percent
 Haunchee very cobbly loam, 30 to 75 percent slopes—30 percent
 Cavehill gravelly loam, 30 to 75 percent slopes—20 percent
 Cavehill gravelly loam, droughty, 30 to 75 percent slopes—5 percent
 Ravendog loam, 2 to 4 percent slopes—5 percent
 Xine very gravelly loam, 15 to 30 percent slopes—5 percent

Component Description

Cavehill and similar soils

Landform: Backslopes of lower mountains
 Slope: 30 to 75 percent
 Parent material: Residuum and colluvium derived from limestone, dolomite and loess
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—singleleaf pinyon, muttongrass, bluebunch wheatgrass, serviceberry, mountain big sagebrush, curleaf mountainmahogany, antelope bitterbrush, snowberry
 Site index: Singleleaf pinyon—70 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; gravelly loam
 Layer 2—3 to 10 inches; gravelly loam
 Layer 3—10 to 27 inches; very cobbly loam
 Layer 4—27 to 31 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: Lithic bedrock: 20 to 39 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: F028BY058NV

Component Description

Haunchee and similar soils

Landform: Backslopes of upper mountains
 Slope: 30 to 75 percent
 Parent material: Residuum and colluvium derived from limestone, shale, and dolomite
 Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Layer 1—0 to 7 inches; very cobbly loam
 Layer 2—7 to 19 inches; very gravelly loam
 Layer 3—19 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: Lithic bedrock: 10 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: R028BY032NV—Stony mahogany savanna

Component Description

Cavehill and similar soils

Landform: Backslopes of upper mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone, dolomite and loess

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—20 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 10 inches; gravelly loam

Layer 3—10 to 27 inches; very cobbly loam

Layer 4—27 to 31 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: Lithic bedrock: 20 to 39 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: F028BY076NV

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

Contrasting Inclusions

Cavehill and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of lower mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—other shrubs, Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, singleleaf pinyon

Ecological site: F028BY062NV

Ravendog and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Thickspike wheatgrass, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Xine and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Typical vegetation: Basin wildrye, Canby bluegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028BY088NV—Calcareous loam 14-16 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1386—Ursine-Eastmore association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,950 to 6,600

Precipitation: 8 to 10 inches

Air temperature: 48 to 53 degrees Fahrenheit

Frost-free period: 100 to 150 days

Composition

Ursine gravelly loam, 2 to 15 percent slopes—35 percent

Ursine gravelly loam, 4 to 30 percent slopes—30 percent

Eastmore gravelly sandy loam, 4 to 30 percent slopes—25 percent

Xeric Torriorthents gravelly sandy loam, 8 to 30 percent slopes—5 percent

Rock outcrop, 8 to 30 percent slopes—3 percent

Medburn silt loam, 2 to 4 percent slopes—2 percent

Component Description

Ursine and similar soils

Landform: Summits and shoulders of fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam
 Layer 2—2 to 5 inches; gravelly fine sandy loam
 Layer 3—5 to 18 inches; very gravelly sandy loam
 Layer 4—18 to 70 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description**Ursine and similar soils**

Landform: Fan remnants, east to north aspects
 Slope: 4 to 30 percent
 Parent material: Alluvium derived from limestone with a minor component of quartzite
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 2 inches; gravelly loam
 Layer 2—2 to 5 inches; gravelly fine sandy loam
 Layer 3—5 to 18 inches; very gravelly sandy loam
 Layer 4—18 to 70 inches; cemented material

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: Duripan: 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: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Component Description**Eastmore and similar soils**

Landform: Backslopes of fan remnants, west to south aspects
 Slope: 4 to 30 percent

Parent material: Alluvium derived from limestone and quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 17 inches; very gravelly fine sandy loam

Layer 3—17 to 49 inches; cemented material

Layer 4—49 to 65 inches; gravelly fine 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: 10 to 20 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

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

Contrasting Inclusions

Xeric Torriorthents and similar soils

Composition: 0 to 5 percent

Classification: Mesic Xeric Torriorthents

Slope: 8 to 30 percent

Landform: Backslopes of fan remnants

Typical vegetation: Forest canopy—Utah juniper Forest understory—Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, green ephedra, other shrubs, Utah juniper

Ecological site: F028AY041NV

Rock outcrop

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Backslopes of upper rock pediments

Medburn and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Engineering" and "Soil Properties" sections

1388—Eastmore-Summermute-Ursine association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,550 to 6,350

Precipitation: 6 to 10 inches

Air temperature: 48 to 51 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Eastmore gravelly sandy loam, moist, 4 to 8 percent slopes—40 percent

Summermute gravelly loam, 0 to 8 percent slopes—35 percent

Ursine gravelly loam, 2 to 8 percent slopes—15 percent

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

Katelana silt loam, 0 to 2 percent slopes—3 percent

Rock outcrop, 8 to 15 percent slopes—2 percent

Component Description

Eastmore and similar soils

Landform: Fan remnants

Slope: 4 to 8 percent

Parent material: Alluvium derived from limestone and quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 17 inches; very gravelly fine sandy loam

Layer 3—17 to 49 inches; cemented material

Layer 4—49 to 65 inches; gravelly fine 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: 10 to 20 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Summermute and similar soils

Landform: Fan skirts

Slope: 0 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Needleandthread, Indian ricegrass, galleta, other perennial grasses, sand dropseed, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 11 inches; gravelly loam

Layer 3—11 to 16 inches; very gravelly loam

Layer 4—16 to 43 inches; very gravelly sandy loam

Layer 5—43 to 60 inches; very gravelly 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 Low, (Permeability class: Slow)

Sodicity: Sodic within 40 inches

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: R028AY018NV—Coarse gravelly loam 5-8 P.Z.

Component Description

Ursine and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 18 inches; very gravelly sandy loam

Layer 4—18 to 70 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Linoyer and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Katelana and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Ecological site: R028BY074NV—Sodic terrace 5-8 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Backslopes of rock pediments

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1400—Suak-Segura-Mclvey association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 7,650 to 8,550

Precipitation: 12 to 18 inches

Air temperature: 39 to 46 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Suak very stony loam, 15 to 50 percent slopes—40 percent

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

Mclvey very gravelly loam, 30 to 50 percent slopes—15 percent

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

Rubble land, 15 to 50 percent slopes—5 percent

Cropper very cobbly loam, 15 to 50 percent slopes—3 percent

Chen very cobbly loam, 15 to 50 percent slopes—2 percent

Component Description

Suak and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from quartzite, shale and limestone

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Layer 1—0 to 10 inches; very stony loam

Layer 2—10 to 25 inches; extremely cobbly loam

Layer 3—25 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: Lithic bedrock: 20 to 40 inches

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

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: R028BY032NV—Stony mahogany savanna

Component Description

Segura and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from quartzite

Typical vegetation: Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 14 inches; sandy clay loam

Layer 3—14 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: Lithic bedrock: 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: R028BY087NV—Gravelly clay 12-14 P.Z.

Component Description

McIvey and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Alluvium or colluvium derived from quartzite and shale

Typical vegetation: Western needlegrass, Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, snowberry

Typical profile:

Layer 1—0 to 18 inches; very gravelly loam

Layer 2—18 to 23 inches; very gravelly clay loam

Layer 3—23 to 62 inches; very gravelly 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)

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: R028BY015NV—Loamy slope 12-16 P.Z.

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

Contrasting Inclusions

Cassiro and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, western needlegrass, Thurber's needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R028BY046NV—Gravelly loam 12-14 P.Z.

Rubble land

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Mountains

Cropper and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon

Ecological site: F028BY076NV

Chen and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Western needlegrass, pine needlegrass, Thurber's needlegrass, muttongrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028BY037NV—Claypan 12-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1430—Hardzem-Hackwood-Guiser association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 7,700 to 10,600

Precipitation: 16 to 35 inches

Air temperature: 38 to 43 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Hardzem channery loam, 50 to 75 percent slopes—35 percent

Hackwood gravelly silt loam, 30 to 50 percent slopes—30 percent

Guiser extremely cobbly loam, 30 to 75 percent slopes—20 percent

Rubble land, 30 to 75 percent slopes—8 percent

Decram very stony loam, 30 to 75 percent slopes—3 percent

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

Tusel cobbly loam, 30 to 50 percent slopes—2 percent

Component Description

Hardzem and similar soils

Landform: Backslopes of mountains

Slope: 50 to 75 percent

Parent material: Residuum and colluvium derived from limestone and shale

Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir

Site index: White fir—43 at an age base of 50 years

Typical profile:

Layer 1—0 to 1 inches; channery loam

Layer 2—1 to 21 inches; very channery loam

Layer 3—21 to 52 inches; bedrock

Layer 4—52 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: Paralithic bedrock: 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: 7e
 Ecological site: F028BY063NV

Component Description

Hackwood and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent

Parent material: Alluvium and colluvium derived from quartzite, conglomerate, and igneous rocks, with a component of loess

Typical vegetation: Forest canopy—quaking aspen Forest understory—other perennial forbs, slender wheatgrass, mountain brome, Nevada bluegrass, muttongrass, snowberry, quaking aspen, other perennial grasses, other shrubs, streambank wheatgrass, mountain big sagebrush

Site index: Quaking aspen—37 at an age base of 50 years

Typical profile:

Layer 1—0 to 23 inches; gravelly silt loam
 Layer 2—23 to 32 inches; gravelly silt loam
 Layer 3—32 to 60 inches; very gravelly 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 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F028BY067NV

Component Description

Guiser and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 75 percent

Parent material: Colluvium derived from quartzite and conglomerate

Typical vegetation: Forest canopy—quaking aspen, white fir Forest understory—mountain brome, slender wheatgrass, spike fescue, Nevada bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, common juniper, Oregongrape, other shrubs, white fir, quaking aspen

Site index: Quaking aspen—44 at an age base of 50 years

Site index: White fir—45 at an age base of 50 years

Typical profile:

Layer 1—0 to 7 inches; extremely cobbly loam
 Layer 2—7 to 15 inches; extremely cobbly coarse sandy loam
 Layer 3—15 to 36 inches; extremely cobbly loam
 Layer 4—36 to 60 inches; extremely gravelly coarse 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: F028BY055NV

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 75 percent

Landform: Mountains

Decram and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, muttongrass, other perennial grasses, other perennial forbs, low sagebrush, black sagebrush

Ecological site: R028BY038NV—Mountain ridge 14+ P.Z.

Suak and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, snowberry

Ecological site: R028BY032NV—Stony mahogany savanna

Tusel and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Other perennial forbs, slender wheatgrass, mountain brome, other perennial grasses, spike fescue, mountain big sagebrush, Letterman needlegrass, snowberry, Columbia needlegrass, sedge

Ecological site: R028BY029NV—Loamy 16+ P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1435—Haunchee-Rock outcrop association***Map Unit Setting***

MLRA: 28B

Landscape: Mountains

Elevation: 7,000 to 10,100

Precipitation: 12 to 20 inches

Air temperature: 36 to 44 degrees Fahrenheit

Frost-free period: 30 to 50 days

Composition

Haunchee very cobbly loam, 30 to 75 percent slopes—55 percent

Rock outcrop, 30 to 100 percent slopes—30 percent

Cavehill gravelly loam, 30 to 75 percent slopes—5 percent

Eganroc very stony loam, 30 to 75 percent slopes—5 percent

Hyzen extremely stony loam, 15 to 50 percent slopes—5 percent

Component Description**Haunchee and similar soils**

Landform: Backslopes of mountains, south aspect

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone, shale, and dolomite

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Surface rock fragments: About 30 percent stones, 30 percent cobbles, 15 percent gravel, 15 percent fine gravel

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; very gravelly loam

Layer 3—19 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: Lithic bedrock: 10 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: R028BY032NV—Stony mahogany savanna

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 100 percent

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

Contrasting Inclusions

Cavehill and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, bluebunch wheatgrass, serviceberry, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, snowberry, singleleaf pinyon

Ecological site: F028BY058NV

Eganroc and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, other shrubs, white fir, limber pine, Great Basin bristlecone pine

Ecological site: F028BY049NV

Hyzen and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—bluegrass, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon

Ecological site: F028BY060NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1470—Tybo-Koyen association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,650 to 4,900

Precipitation: 5 to 8 inches

Air temperature: 54 to 57 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Tybo gravelly fine sandy loam, 2 to 4 percent slopes—60 percent

Koyen gravelly sandy loam, droughty, 2 to 4 percent slopes—25 percent

Geer fine sandy loam, 0 to 4 percent slopes—8 percent

Delamar sandy loam, 2 to 8 percent slopes—3 percent

Leo very gravelly sandy loam, 2 to 4 percent slopes—2 percent

Riverwash extremely gravelly coarse sand, 2 to 4 percent slopes—2 percent

Component Description

Tybo and similar soils

Landform: Fan remnants

Slope: 2 to 4 percent

Parent material: Alluvium derived from quartzite, limestone and welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 17 inches; gravelly sandy 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: Very high

Depth to restrictive feature: Duripan: 8 to 20 inches

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

Salinity: Saline 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: R029XY079NV—Droughty loam 5-8 P.Z.

Component Description

Koyen and similar soils

Landform: Inset fans

Slope: 2 to 4 percent

Parent material: Alluvium derived from volcanic rocks with a high component of loess

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 45 inches; sandy loam

Layer 3—45 to 60 inches; gravelly loamy 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: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 7c

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

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

Contrasting Inclusions

Geer and similar soils

Composition: 0 to 8 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Delamar and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Leo and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Riverwash

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Drainageways

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1473—Tybo-Leo association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,650 to 5,100

Precipitation: 5 to 8 inches

Air temperature: 52 to 54 degrees Fahrenheit

Frost-free period: 130 to 150 days

Composition

Tybo gravelly coarse sandy loam, 2 to 4 percent slopes—60 percent

Leo very gravelly sandy loam, 2 to 4 percent slopes—25 percent

Koyen gravelly sandy loam, 2 to 4 percent slopes—8 percent

Riverwash extremely gravelly coarse sand, 2 to 4 percent slopes—4 percent

Delamar sandy loam, 2 to 4 percent slopes—3 percent

Component Description

Tybo and similar soils

Landform: Fan remnants

Slope: 2 to 4 percent

Parent material: Alluvium derived from quartzite, limestone and welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Layer 1—0 to 3 inches; gravelly coarse sandy loam

Layer 2—3 to 17 inches; gravelly sandy 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: Very high

Depth to restrictive feature: Duripan: 8 to 20 inches

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

Salinity: Saline 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: R029XY079NV—Droughty loam 5-8 P.Z.

Component Description

Leo and similar soils

Landform: Inset fans

Slope: 2 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

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

Layer 2—4 to 60 inches; stratified extremely gravelly coarse sand to gravelly 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 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

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

Contrasting Inclusions

Koyen and similar soils

Composition: 0 to 8 percent

Slope: 2 to 4 percent

Landform: Lower inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Riverwash

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Drainageways

Delamar and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Backslopes of fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1475—Treadwell-Veet association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,250 to 4,850

Precipitation: 6 to 10 inches

Air temperature: 49 to 53 degrees Fahrenheit

Frost-free period: 110 to 140 days

Composition

Treadwell gravelly sandy loam, 8 to 30 percent slopes—40 percent

Treadwell gravelly sandy loam, 15 to 30 percent slopes—30 percent

Veet very gravelly sandy loam, dry, 2 to 15 percent slopes—15 percent

Rock outcrop, 30 to 75 percent slopes—6 percent

Jericho very gravelly loam, 4 to 8 percent slopes—5 percent

Annabella sandy loam, 0 to 4 percent slopes—4 percent

Component Description

Treadwell and similar soils

Landform: Ballenas

Slope: 8 to 30 percent

Parent material: Alluvium derived from welded tuff and basalt and a component of calcareous loess derived from limestone

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, Nevada ephedra, spiny menodora, other shrubs

Typical profile:

Surface rock fragments: About 70 percent gravel

Layer 1—0 to 5 inches; gravelly sandy loam

Layer 2—5 to 8 inches; extremely gravelly sandy loam

Layer 3—8 to 35 inches; cemented material

Layer 4—35 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: Very high

Depth to restrictive feature: Duripan: 4 to 10 inches

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

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R029XY161NV—Shallow cobbly loam

Component Description

Treadwell and similar soils

Landform: Backslopes of ballenas

Slope: 15 to 30 percent

Parent material: Alluvium derived from welded tuff and basalt and a component of calcareous loess derived from limestone

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, Nevada ephedra, rubber rabbitbrush, Nevada dalea, other shrubs

Typical profile:

Surface rock fragments: About 70 percent gravel

Layer 1—0 to 5 inches; gravelly sandy loam

Layer 2—5 to 8 inches; extremely gravelly sandy loam

Layer 3—8 to 35 inches; cemented material

Layer 4—35 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: Very high

Depth to restrictive feature: Duripan: 4 to 10 inches

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

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R029XY162NV—Eroded slope

Component Description**Veet and similar soils**

Landform: Inset fans

Slope: 2 to 15 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

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

Layer 2—4 to 16 inches; very gravelly sandy loam

Layer 3—16 to 60 inches; stratified very gravelly loamy coarse sand to extremely gravelly 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

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: 30 to 75 percent

Landform: Hills

Jericho and similar soils

Composition: 0 to 5 percent

Slope: 4 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

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

1485—Monarch-Highup-Eganroc association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 6,300 to 10,200
 Precipitation: 14 to 27 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 50 to 90 days

Composition

Monarch very gravelly loam, 15 to 50 percent slopes—35 percent
 Highup extremely gravelly silt loam, 15 to 50 percent slopes—30 percent
 Eganroc very stony loam, 30 to 75 percent slopes—20 percent
 Faleria gravelly ashy sandy loam, 30 to 75 percent slopes—6 percent
 Badhap very gravelly loam, 15 to 50 percent slopes—4 percent
 Rock outcrop, 30 to 75 percent slopes—3 percent
 Hardol very gravelly silt loam, 15 to 50 percent slopes—2 percent

Component Description

Monarch and similar soils

Landform: Backslopes of mountains, south aspect
 Slope: 15 to 50 percent
 Parent material: Colluvium and residuum derived from limestone and shale
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon
 Site index: Singleleaf pinyon—75 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam
 Layer 2—8 to 15 inches; very gravelly loam
 Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 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: F028AY077NV

Component Description

Highup and similar soils

Landform: Backslopes of upper mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Typical profile:

Surface rock fragments: About 30 percent fine gravel, 35 percent gravel

Layer 1—0 to 5 inches; extremely gravelly silt loam

Layer 2—5 to 16 inches; very gravelly silt loam

Layer 3—16 to 33 inches; extremely gravelly silt loam

Layer 4—33 to 37 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: Lithic bedrock: 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: 7e

Ecological site: R028AY059NV—Mahogany savanna

Component Description

Eganroc and similar soils

Landform: Lower mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Forest canopy—white fir Forest understory—bluebunch wheatgrass, muttongrass, Oregongrape, goldenweed, mountain big sagebrush, white fir, other perennial grasses, other perennial forbs, other shrubs, other trees

Site index: White fir—35 at an age base of 50 years

Typical profile:

Layer 1—0 to 9 inches; very stony loam

Layer 2—9 to 34 inches; extremely gravelly loam

Layer 3—34 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: Lithic bedrock: 30 to 40 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: F028AY085NV

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

Contrasting Inclusions

Faleria and similar soils

Composition: 0 to 6 percent
 Slope: 30 to 75 percent
 Landform: Mountains

Typical vegetation: Forest canopy—ponderosa pine Forest understory—muttongrass, bottlebrush squirreltail, Gambel's oak, Utah serviceberry, mountain big sagebrush, ponderosa pine, other perennial forbs, greenleaf manzanita, other shrubs, other perennial grasses

Ecological site: F029XY086NV

Badhap and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains

Typical vegetation: Letterman needlegrass, nodding brome, mountain brome, slender wheatgrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, snowberry

Ecological site: R028AY068NV—Loamy slope 16+ P.Z.

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 75 percent
 Landform: Mountains

Hardol and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains

Typical vegetation: Blue grama, muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush, curlleaf mountainmahogany, other shrubs

Ecological site: R029XY138NV—Mountain slope 12-14 P.Z.

Management

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

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

1501—Radol-Monarch-Highup association

Map Unit Setting

MLRA: 28A

Landscape: Mountains
 Elevation: 6,300 to 9,150
 Precipitation: 12 to 20 inches
 Air temperature: 42 to 50 degrees Fahrenheit
 Frost-free period: 70 to 110 days

Composition

Radol very gravelly loam, 15 to 50 percent slopes—40 percent
 Monarch extremely cobbly fine sandy loam, 15 to 75 percent slopes—30 percent
 Highup extremely gravelly silt loam, 30 to 75 percent slopes—15 percent
 Amtoft very gravelly loam, warm, 8 to 30 percent slopes—4 percent
 Radol very gravelly loam, 8 to 30 percent slopes—4 percent
 Rock outcrop, 15 to 50 percent slopes—4 percent
 Pamsdel gravelly loam, 15 to 50 percent slopes—3 percent

Component Description

Radol and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone
 Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel
 Layer 1—0 to 2 inches; very gravelly loam
 Layer 2—2 to 15 inches; extremely cobbly loam
 Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Monarch and similar soils

Landform: Backslopes of mountains, west to east aspects
 Slope: 15 to 75 percent
 Parent material: Colluvium and residuum derived from limestone and shale
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—singleleaf pinyon, basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry

Site index: Singleleaf pinyon—75 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; extremely cobbly fine sandy loam

Layer 2—8 to 15 inches; very gravelly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 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: F028AY077NV

Component Description

Highup and similar soils

Landform: Backslopes of mountains, west to east aspects

Slope: 30 to 75 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Typical profile:

Surface rock fragments: About 70 percent gravel, 5 percent cobbles, 3 percent stones

Layer 1—0 to 5 inches; extremely gravelly silt loam

Layer 2—5 to 16 inches; very gravelly silt loam

Layer 3—16 to 33 inches; extremely gravelly silt loam

Layer 4—33 to 37 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: Lithic bedrock: 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: 7e

Ecological site: R028AY059NV—Mahogany savanna

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

Contrasting Inclusions

Amtoft and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent, north aspect

Landform: Backslopes of mountains, north aspect

Typical vegetation: Pine needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Ecological site: R028AY096NV—Calcareous mountain ridge

Radol and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, wild crab apple, other shrubs

Ecological site: R028AY087NV—Calcareous fan piedmont 10-14 P.Z.

Rock outcrop

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Pamsdel and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of upper fan remnants

Typical vegetation: Bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Ecological site: R028AY127NV—Loamy fan piedmont

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1502—Lodar-Logring-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,100 to 8,550

Precipitation: 10 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 80 to 110 days

Composition

Lodar very gravelly loam, 15 to 50 percent slopes—40 percent

Logring very cobbly fine sandy loam, 15 to 50 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Wambolt extremely gravelly loam, 8 to 15 percent slopes—6 percent

Monarch extremely cobbly fine sandy loam, 30 to 75 percent slopes—5 percent

Kyler very gravelly very fine sandy loam, 30 to 75 percent slopes—4 percent

Component Description

Lodar and similar soils

Landform: Mountains, south aspect

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam

Layer 2—8 to 16 inches; very gravelly loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

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

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: F028AY074NV

Component Description

Logring and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 15 percent gravel, 30 percent cobbles

Layer 1—0 to 3 inches; very cobbly fine sandy loam

Layer 2—3 to 10 inches; extremely cobbly loam

Layer 3—10 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: Lithic bedrock: 7 to 14 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: F028AY074NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

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

Contrasting Inclusions

Wambolt and similar soils

Composition: 0 to 6 percent
 Slope: 8 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Ecological site: R028AY059NV—Mahogany savanna

Monarch and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 75 percent

Landform: Backslopes of mountains, west to east aspects

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Ecological site: F028AY077NV

Kyler and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Management

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

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

1510—Ursine-Jarab-Pamsdel association

Map Unit Setting

MLRA: 28A
 Landscape: Fan piedmont
 Elevation: 5,800 to 7,250
 Precipitation: 8 to 14 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ursine gravelly loam, 2 to 8 percent slopes—40 percent

Jarab very gravelly sandy loam, 4 to 15 percent slopes—30 percent

Pamsdel gravelly loam, 2 to 8 percent slopes—20 percent

Ravendog loam, 2 to 4 percent slopes—6 percent

Ursine gravelly loam, 8 to 30 percent slopes—4 percent

Component Description

Ursine and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 8 inches; gravelly loam

Layer 3—8 to 16 inches; very gravelly sandy loam

Layer 4—16 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Jarab and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and from quartzite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, wild crab apple, other shrubs

Site index: Utah juniper—65 at an age base of 100 years

Site index: Singleleaf pinyon—65 at an age base of 100 years

Typical profile:

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

Layer 2—4 to 13 inches; very gravelly loam

Layer 3—13 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: 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: R028AY087NV—Calcareous fan piedmont 10-14 P.Z.

Component Description

Pamsdel and similar soils

Landform: Upper fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and shale

Typical vegetation: Bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 10 percent cobbles, 30 percent gravel

Layer 1—0 to 10 inches; gravelly loam

Layer 2—10 to 19 inches; very gravelly loam

Layer 3—19 to 53 inches; cemented material

Layer 4—53 to 62 inches; cemented material

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: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (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: R028AY127NV—Loamy fan piedmont

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Ursine and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1525—Ubehebe-Penelas-Kyler association

Map Unit Setting

MLRA: 28A

Landscape: Hills

Elevation: 6,300 to 7,900

Precipitation: 8 to 12 inches

Air temperature: 47 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ubehebe very channery sandy loam, 15 to 50 percent slopes—35 percent

Penelas very channery loam, 8 to 30 percent slopes—25 percent

Kyler very gravelly very fine sandy loam, 8 to 30 percent slopes—25 percent

Brier very cobbly loam, 30 to 75 percent slopes—5 percent

Radol very gravelly loam, 15 to 50 percent slopes—5 percent

Rock outcrop, 30 to 75 percent slopes—3 percent

Ursine gravelly loam, 8 to 15 percent slopes—2 percent

Component Description

Ubehebe and similar soils

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from shale

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, singleleaf pinyon, Utah juniper

Site index: Utah juniper—45 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 39 percent gravel, 11 percent fine gravel, 3 percent cobbles

Layer 1—0 to 7 inches; very channery sandy loam

Layer 2—7 to 12 inches; very channery loam

Layer 3—12 to 19 inches; very channery 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: Paralithic bedrock: 14 to 20 inches

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

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: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Penelas and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from shale

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Typical profile:

Surface rock fragments: About 50 percent cobbles, 10 percent stones

Layer 1—0 to 5 inches; very channery loam

Layer 2—5 to 13 inches; very channery clay loam

Layer 3—13 to 18 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: Paralithic bedrock: 5 to 14 inches

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

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Kyler and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Surface rock fragments: About 31 percent gravel, 2 percent fine gravel, 16 percent cobbles, 2 percent stones

Layer 1—0 to 3 inches; very gravelly very fine sandy loam
 Layer 2—3 to 11 inches; very gravelly loam
 Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 1.0 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

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

Contrasting Inclusions

Brier and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 75 percent
 Landform: Mountains
 Typical vegetation: Other shrubs, Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, wild crab apple
 Ecological site: R028AY087NV—Calcareous fan piedmont 10-14 P.Z.

Radol and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
 Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 75 percent
 Landform: Hills

Ursine and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 15 percent
 Landform: Upper fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

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

1700—Garfan-Mclvey association

Map Unit Setting

MLRA: 28B
 Landscape: Fan piedmont
 Elevation: 6,550 to 8,550
 Precipitation: 12 to 18 inches
 Air temperature: 40 to 45 degrees Fahrenheit
 Frost-free period: 70 to 100 days

Composition

Garfan very gravelly loam, 2 to 8 percent slopes—45 percent
 Garfan very gravelly loam, 8 to 30 percent slopes—25 percent
 Mclvey extremely gravelly sandy loam, 15 to 50 percent slopes—15 percent
 Amelar gravelly silt loam, 15 to 50 percent slopes—5 percent
 Birchcreek very cobbly loam, 2 to 8 percent slopes—5 percent
 Devilsgait silt loam, 2 to 8 percent slopes—5 percent

Component Description

Garfan and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from quartzite
 Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam
 Layer 2—8 to 27 inches; extremely cobbly clay
 Layer 3—27 to 60 inches; extremely gravelly 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): 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: R028BY039NV—Cobbly claypan 12-14 P.Z.

Component Description

Garfan and similar soils

Landform: Fan remnants
 Slope: 8 to 30 percent
 Parent material: Alluvium derived from quartzite

Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam

Layer 2—8 to 27 inches; extremely cobbly clay

Layer 3—27 to 60 inches; extremely gravelly 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): 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: R028BY039NV—Cobbly claypan 12-14 P.Z.

Component Description

McIvey and similar soils

Landform: Hills

Slope: 15 to 50 percent

Parent material: Alluvium or colluvium derived from quartzite and shale

Typical vegetation: Western needlegrass, Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, snowberry

Typical profile:

Layer 1—0 to 12 inches; extremely gravelly sandy loam

Layer 2—12 to 16 inches; very gravelly clay loam

Layer 3—16 to 31 inches; extremely gravelly clay

Layer 4—31 to 60 inches; very gravelly 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): Low, (Permeability class: Very 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: R028BY015NV—Loamy slope 12-16 P.Z.

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

Contrasting Inclusions

Amelar and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of fan remnants

Typical vegetation: Indian ricegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028BY091NV—Gravelly calcareous loam 14+ P.Z.

Birchcreek and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Rock pediments

Typical vegetation: Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028BY030NV—Loamy 12-16 P.Z.

Devilsgait and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Flood plains

Typical vegetation: Mountain big sagebrush, willow, other shrubs, other perennial forbs, other perennial grasses, Nevada bluegrass, basin wildrye

Ecological site: R028BY024NV—Loamy bottom 14+ P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1701—Suak-Chen-Rock outcrop association

Map Unit Setting

MLRA: 28B

Landscape: Mountains

Elevation: 6,600 to 9,600

Precipitation: 10 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Suak very gravelly loam, 15 to 50 percent slopes—40 percent

Chen very cobbly loam, 30 to 75 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Hardzem channery loam, 30 to 75 percent slopes—4 percent

Mclvey extremely gravelly sandy loam, 30 to 50 percent slopes—4 percent

Segura very cobbly loam, 15 to 50 percent slopes—4 percent

Rubble land, 15 to 75 percent slopes—3 percent

Component Description

Suak and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from quartzite, shale and limestone

Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, other shrubs, snowberry

Typical profile:

Surface rock fragments: About 10 percent cobbles, 20 percent gravel, 20 percent fine gravel

Layer 1—0 to 11 inches; very gravelly loam

Layer 2—11 to 21 inches; extremely gravelly loam

Layer 3—21 to 31 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: Lithic bedrock: 20 to 40 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: R028BY032NV—Stony mahogany savanna

Component Description

Chen and similar soils

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and residuum derived from volcanic and sedimentary rocks

Typical vegetation: Western needlegrass, pine needlegrass, Thurber's needlegrass, muttongrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 20 percent gravel, 20 percent fine gravel, 20 percent cobbles

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 12 inches; extremely gravelly clay

Layer 3—12 to 16 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: Lithic bedrock: 12 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028BY037NV—Claypan 12-14 P.Z.

Component Description

Rock outcrop

Landform: Backslopes of mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions

Hardzem and similar soils

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir

Ecological site: F028BY063NV

McIvey and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Utah serviceberry, mountain big sagebrush, antelope bitterbrush, snowberry, western needlegrass, Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs

Ecological site: R028BY015NV—Loamy slope 12-16 P.Z.

Segura and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028BY087NV—Gravelly clay 12-14 P.Z.

Rubble land

Composition: 0 to 3 percent

Slope: 15 to 75 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1730—Qwynn-Devildog association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,650 to 6,400

Precipitation: 8 to 10 inches

Air temperature: 50 to 53 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Qwynn gravelly ashy coarse sandy loam, 0 to 4 percent slopes—80 percent
 Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—15 percent
 Devildog very gravelly ashy coarse sandy loam, 4 to 15 percent slopes—5 percent

Component Description**Qwynn and similar soils**

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 15 percent gravel

Layer 1—0 to 3 inches; gravelly coarse sandy loam

Layer 2—3 to 28 inches; gravelly sandy loam

Layer 3—28 to 52 inches; gravelly sandy clay loam

Layer 4—52 to 70 inches; very gravelly coarse 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 6 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description**Devildog and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 7c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Devildog and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1731—Cath-Chuckridge association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,900 to 6,500

Precipitation: 8 to 12 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Cath gravelly loam, 0 to 4 percent slopes—50 percent

Chuckridge gravelly sandy clay loam, 0 to 4 percent slopes—35 percent

Heist loamy sand, 0 to 4 percent slopes—9 percent

Plegomir very gravelly sandy loam, 2 to 8 percent slopes—6 percent

Component Description

Cath and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 21 inches; clay loam

Layer 3—21 to 33 inches; very gravelly loam

Layer 4—33 to 60 inches; stratified very gravelly loamy 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: Medium

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: 6c

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description**Chuckridge and similar soils**

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from rhyolite and basalt

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

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

Layer 2—2 to 11 inches; gravelly sandy clay loam

Layer 3—11 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions**Heist and similar soils**

Composition: 0 to 9 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Plegomir and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1732—Cath-Watopah-Escalante association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,750 to 6,250

Precipitation: 8 to 12 inches

Air temperature: 46 to 53 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Cath gravelly loam, 0 to 4 percent slopes—35 percent

Watopah gravelly loamy sand, cool, 0 to 4 percent slopes—30 percent

Escalante very gravelly sandy loam, 0 to 4 percent slopes—20 percent

Heist loamy sand, 0 to 8 percent slopes—8 percent

Linoyer very fine sandy loam, 0 to 2 percent slopes—7 percent

Component Description

Cath and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 21 inches; clay loam

Layer 3—21 to 33 inches; very gravelly loam

Layer 4—33 to 60 inches; stratified very gravelly loamy 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: Medium

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: 6c
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Watoopah and similar soils

Landform: Fan remnants
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from volcanic ash, welded tuff, and rhyolite
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly loamy sand
 Layer 2—4 to 14 inches; sandy loam
 Layer 3—14 to 40 inches; gravelly loamy sand
 Layer 4—40 to 60 inches; stratified very gravelly coarse sand to coarse 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 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Fan skirts
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from rhyolite and some limestone
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam
 Layer 2—3 to 27 inches; gravelly sandy loam
 Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Heist and similar soils

Composition: 0 to 8 percent

Slope: 0 to 8 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1733—Cath-Watoopah-Escalante association, warm

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,150 to 6,250

Precipitation: 8 to 12 inches

Air temperature: 46 to 53 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Cath gravelly loam, 0 to 4 percent slopes—35 percent

Watoopah gravelly ashy loamy sand, 0 to 4 percent slopes—30 percent

Escalante very gravelly sandy loam, 0 to 4 percent slopes—20 percent

Heist gravelly sandy loam, 0 to 4 percent slopes—8 percent

Linoyer very fine sandy loam, 0 to 2 percent slopes—7 percent

Component Description

Cath and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 21 inches; clay loam

Layer 3—21 to 33 inches; very gravelly loam

Layer 4—33 to 60 inches; stratified very gravelly loamy 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: Medium

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: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Watoopah and similar soils

Landform: Summits of fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from volcanic ash, welded tuff and rhyolite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; gravelly loamy sand

Layer 2—4 to 14 inches; sandy loam

Layer 3—14 to 40 inches; gravelly loamy sand

Layer 4—40 to 60 inches; stratified very gravelly coarse sand to coarse 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from rhyolite and some limestone

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam

Layer 2—3 to 27 inches; gravelly sandy loam

Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Heist and similar soils

Composition: 0 to 8 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1810—Boxspring-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Mountains
 Elevation: 4,600 to 4,900
 Precipitation: 8 to 10 inches
 Air temperature: 54 to 57 degrees Fahrenheit
 Frost-free period: 150 to 180 days

Composition

Boxspring extremely gravelly loam, 15 to 50 percent slopes—65 percent
 Rock outcrop, 30 to 75 percent slopes—20 percent
 Wyva very cobbly sandy loam, 30 to 50 percent slopes—7 percent
 St. Thomas extremely stony fine sandy loam, 30 to 50 percent slopes—4 percent
 Zaqua very gravelly sandy loam, 30 to 50 percent slopes—4 percent

Component Description

Boxspring and similar soils

Landform: Mountains
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from limestone and dolomite over residuum weathered from limestone and dolomite
 Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, Nevada ephedra, desert bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; extremely gravelly loam
 Layer 2—3 to 16 inches; very gravelly 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: Lithic bedrock: 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: R029XY077NV—Shallow gravelly loam 8-10 P.Z.

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

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

Contrasting Inclusions

Wyva and similar soils

Composition: 0 to 7 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs
 Ecological site: R029XY075NV—Loamy slope 10-12 P.Z.

St. Thomas and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, blackbrush, creosotebush, other shrubs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

Zaqua and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountain slopes

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, Nevada ephedra, desert bitterbrush, other shrubs

Ecological site: R029XY077NV—Shallow gravelly loam 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1880—Richinde-Pintwater-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 5,350 to 5,550

Precipitation: 6 to 10 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Richinde very gravelly ashy sandy loam, thin surface, 15 to 50 percent slopes—55 percent

Pintwater very stony fine sandy loam, 15 to 50 percent slopes—20 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Stewval very gravelly fine sandy loam, 30 to 50 percent slopes—5 percent

Farepeak very gravelly ashy loam, 30 to 50 percent slopes—3 percent

Littleailie gravelly ashy sandy loam, 0 to 4 percent slopes—2 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly ashy sandy loam
 Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam
 Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY073NV—Bouldery loam 8-12 P.Z.

Component Description

Pintwater and similar soils

Landform: Mountains
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from welded tuff and basalt
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, fourwing saltbush, green ephedra, California buckwheat, Mohave eriogonum, other shrubs, desert snowberry

Typical profile:

Layer 1—0 to 4 inches; very stony fine sandy loam
 Layer 2—4 to 20 inches; extremely cobbly fine sandy loam
 Layer 3—20 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: Lithic bedrock: 10 to 20 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: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY085NV—Bouldery slope 5-8 P.Z.

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

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

Contrasting Inclusions

Stewval and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, Nevada ephedra

Ecological site: R029XY045NV—Stony calcareous slope 8-12 P.Z.

Farepeak and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Thurber's needlegrass, bottlebrush squirreltail, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY095NV

Littleailie and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1881—Richinde-Richinde, steep-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 4,900 to 7,000

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Richinde very gravelly ashy sandy loam, thin surface, 15 to 50 percent slopes—45 percent

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

Rock outcrop, 30 to 50 percent slopes—15 percent

Kyler very gravelly very fine sandy loam, 30 to 75 percent slopes—6 percent

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

Cath coarse sandy loam, 2 to 8 percent slopes—3 percent

Mosida loam, 2 to 15 percent slopes—2 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly ashy sandy loam

Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY073NV—Bouldery loam 8-12 P.Z.

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly ashy sandy loam

Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY010NV—Loamy slope 8-10 P.Z.

Component Description

Rock outcrop

Landform: Summits of mountains

Slope: 30 to 50 percent

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

Contrasting Inclusions

Kyler and similar soils

Composition: 0 to 6 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains, south aspect

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Veet and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Cath and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Mosida and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1882—Richinde association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 5,200 to 5,700

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Richinde very gravelly ashy sandy loam, thin surface, 4 to 15 percent slopes—50 percent

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

Rock outcrop, 15 to 30 percent slopes—9 percent

Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—6 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 4 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly ashy sandy loam

Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY073NV—Bouldery loam 8-12 P.Z.

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly ashy sandy loam

Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY006NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Rock outcrop

Composition: 0 to 9 percent

Slope: 15 to 30 percent

Landform: Mountains

Devildog and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1885—Richinde-Chubard-Richinde, very stony association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 4,750 to 6,300

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Richinde very gravelly ashy sandy loam, 2 to 15 percent slopes—45 percent

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

Richinde very gravelly ashy sandy loam, thin surface, 15 to 50 percent slopes—20 percent

Annabella sandy loam, 0 to 4 percent slopes—3 percent

Lomoiné very gravelly sandy loam, 8 to 30 percent slopes—3 percent

Rock outcrop, 2 to 30 percent slopes—2 percent

Veet very gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 2 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly ashy sandy loam

Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Chubard and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly ashy fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly ashy sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly ashy clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
 Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones
 Layer 1—0 to 5 inches; very gravelly ashy sandy loam
 Layer 2—5 to 18 inches; very gravelly ashy sandy clay loam
 Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY073NV—Bouldery loam 8-12 P.Z.

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

Contrasting Inclusions

Annabella and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs
 Ecological site: R029XY009NV—Upland wash

Lomoine and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Hills

Typical vegetation: Indian ricegrass, other perennial forbs, black sagebrush, Nevada ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY015NV—Shallow calcareous hill 8-10 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Slope: 2 to 30 percent

Landform: Hills

Veet and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs, other perennial grasses

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1900—Eaglepass-Rock outcrop-Amtoft association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 5,000 to 8,700

Precipitation: 8 to 12 inches

Air temperature: 46 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Eaglepass extremely gravelly loamy coarse sand, 30 to 75 percent slopes—40 percent

Rock outcrop, 30 to 75 percent slopes—30 percent

Amtoft very gravelly loam, warm, 8 to 30 percent slopes—20 percent

Logring very cobbly fine sandy loam, 30 to 75 percent slopes—5 percent

Amtoft very gravelly loam, 15 to 30 percent slopes—4 percent

Amtoft very gravelly loam, 30 to 50 percent slopes—1 percent

Component Description

Eaglepass and similar soils

Landform: Summits of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

Layer 1—0 to 2 inches; extremely gravelly loamy coarse sand

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY040NV—Limestone hill

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 75 percent

Component Description

Amtoft and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 8 to 30 percent

Parent material: Residuum and colluvium weathered from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

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

Contrasting Inclusions

Logring and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Amtoft and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, Nevada ephedra

Ecological site: R029XY045NV—Stony calcareous slope 8-12 P.Z.

Amtoft and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, Nevada ephedra, Fremont's mahonia, other shrubs, other trees

Ecological site: R029XY099NV—Stony calcareous hill

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1910—Radol-Lodar association, warm

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,000 to 8,800

Precipitation: 12 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Radol very gravelly loam, warm, 30 to 75 percent slopes—65 percent

Lodar extremely gravelly sandy loam, warm, 15 to 50 percent slopes—20 percent

Eaglepass extremely gravelly loamy coarse sand, 30 to 75 percent slopes—5 percent

Eganroc very stony loam, 30 to 75 percent slopes—4 percent

Amtoft very gravelly loam, 30 to 75 percent slopes—3 percent

Logring very cobbly fine sandy loam, 30 to 75 percent slopes—2 percent

Rock outcrop, 30 to 70 percent slopes—1 percent

Component Description

Radol and similar soils

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 15 inches; extremely cobbly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Lodar and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Site index: Utah juniper—45 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; extremely gravelly sandy loam

Layer 2—8 to 16 inches; very gravelly loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

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

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: F029XY069NV

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

Contrasting Inclusions

Eaglepass and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Summits of mountains

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R029XY040NV—Limestone hill

Eganroc and similar soils

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Lower mountains

Typical vegetation: Forest canopy—singleleaf pinyon, white fir Forest understory—Thurber's needlegrass, bottlebrush squirreltail, spike fescue, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, white fir, singleleaf pinyon

Ecological site: F029XY096NV

Amtoft and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, Nevada ephedra

Ecological site: R029XY045NV—Stony calcareous slope 8-12 P.Z.

Logring and similar soils

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 70 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1920—Eganroc-Rock outcrop-Radol association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,600 to 10,200
 Precipitation: 12 to 20 inches
 Air temperature: 39 to 50 degrees Fahrenheit
 Frost-free period: 50 to 110 days

Composition

Eganroc very stony loam, warm, 30 to 75 percent slopes—35 percent
 Rock outcrop, 50 to 100 percent slopes—30 percent
 Radol very gravelly loam, warm, 15 to 50 percent slopes—20 percent
 Lodar very gravelly loam, 30 to 50 percent slopes—5 percent
 Logring very cobbly fine sandy loam, 15 to 75 percent slopes—5 percent
 Eaglepass extremely stony loam, 30 to 75 percent slopes—5 percent

Component Description

Eganroc and similar soils

Landform: Mountains
 Slope: 30 to 75 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite
 Typical vegetation: Forest canopy—singleleaf pinyon, white fir Forest understory—Utah serviceberry, mountain big sagebrush, other perennial grasses, other perennial forbs, Thurber's needlegrass, bottlebrush squirreltail, spike fescue, muttongrass, Sandberg bluegrass, other shrubs, white fir, singleleaf pinyon
 Site index: Singleleaf pinyon—50 at an age base of 100 years
 Site index: White fir—25 at an age base of 50 years

Typical profile:

Layer 1—0 to 9 inches; very stony loam
 Layer 2—9 to 34 inches; extremely gravelly loam
 Layer 3—34 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: Lithic bedrock: 30 to 40 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: F029XY096NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 50 to 100 percent

Component Description

Radol and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 15 inches; extremely cobbly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

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

Contrasting Inclusions

Lodar and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains, northwest to north aspects

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Logring and similar soils

Composition: 0 to 5 percent

Slope: 15 to 75 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Eaglepass and similar soils

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Upper mountains

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R029XY040NV—Limestone hill

Management

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

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

1922—Lodar-Eaglepass-Radol association

Map Unit Setting

MLRA: 29
 Landscape: Mountains
 Elevation: 6,500 to 8,550
 Precipitation: 8 to 14 inches
 Air temperature: 45 to 52 degrees Fahrenheit
 Frost-free period: 90 to 130 days

Composition

Lodar very gravelly loam, warm, 15 to 50 percent slopes—35 percent
 Eaglepass extremely stony loam, 30 to 75 percent slopes—30 percent
 Radol very gravelly loam, 15 to 50 percent slopes—20 percent
 Rock outcrop, 30 to 75 percent slopes—6 percent
 Eganroc very stony loam, 30 to 75 percent slopes—4 percent
 Kyler very cobbly loam, 15 to 50 percent slopes—3 percent
 Logring very cobbly fine sandy loam, 15 to 75 percent slopes—2 percent

Component Description

Lodar and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 50 percent
 Parent material: Colluvium and residuum derived from limestone
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Utah juniper—45 at an age base of 100 years
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam
 Layer 2—8 to 16 inches; very gravelly loam
 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: Very high
 Depth to restrictive feature: Lithic bedrock: 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 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: F029XY069NV

Component Description

Eaglepass and similar soils

Landform: Upper mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

Layer 1—0 to 2 inches; extremely stony loam

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY040NV—Limestone hill

Component Description

Radol and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 15 inches; extremely cobbly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY081NV—Shallow calcareous hill 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 6 percent

Slope: 30 to 75 percent

Landform: Mountains

Eganroc and similar soils

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Lower mountains

Typical vegetation: Forest canopy—singleleaf pinyon, white fir Forest understory—Thurber's needlegrass, bottlebrush squirreltail, spike fescue, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, white fir, singleleaf pinyon

Ecological site: F029XY096NV

Kyler and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Logring and similar soils

Composition: 0 to 2 percent

Slope: 15 to 75 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1930—Nuhelen-Chubard-Rock outcrop association, warm

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 5,750 to 7,550

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Nuhelen very stony loam, 30 to 50 percent slopes—35 percent

Chubard very gravelly sandy loam, 8 to 30 percent slopes—30 percent

Rock outcrop, 8 to 75 percent slopes—25 percent

Chubard very gravelly ashy sandy loam, 8 to 15 percent slopes—5 percent

Annabella sandy loam, 4 to 8 percent slopes—3 percent

Gabbvally very stony loam, 8 to 30 percent slopes—2 percent

Component Description

Nuhelen and similar soils

Landform: Hills, north aspect

Slope: 30 to 50 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Site index: Utah juniper—45 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 2 percent cobbles, 10 percent gravel, 20 percent fine gravel

Layer 1—0 to 4 inches; very stony ashy loam

Layer 2—4 to 6 inches; very gravelly sandy loam

Layer 3—6 to 13 inches; very cobbly sandy clay loam

Layer 4—13 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: Lithic bedrock: 7 to 14 inches

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

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: F029XY069NV

Component Description

Chubard and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description**Rock outcrop**

Landform: Hills

Slope: 8 to 75 percent

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

Contrasting Inclusions**Chubard and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Gabbvally and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

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

1940—Chubard, stony-Rock outcrop association

Map Unit Setting

MLRA: 29
 Landscape: Hills
 Elevation: 5,800 to 6,800
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Chubard extremely gravelly sandy loam, dry, 15 to 50 percent slopes—45 percent
 Chubard extremely gravelly sandy loam, 15 to 50 percent slopes—25 percent
 Rock outcrop, 30 to 75 percent slopes—20 percent
 Tejabe very stony sandy loam, 15 to 50 percent slopes—4 percent
 Vinini stony fine sandy loam, 4 to 15 percent slopes—3 percent
 Stewval very gravelly fine sandy loam, 15 to 50 percent slopes—2 percent
 Annabella sandy loam, 2 to 8 percent slopes—1 percent

Component Description

Chubard and similar soils

Landform: Hills
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
 Typical vegetation: Nevada ephedra, Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones
 Layer 1—0 to 4 inches; extremely gravelly sandy loam
 Layer 2—4 to 7 inches; extremely gravelly sandy clay loam
 Layer 3—7 to 10 inches; extremely gravelly clay loam
 Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY045NV—Stony calcareous slope 8-12 P.Z.

Component Description

Chubard and similar soils

Landform: Hills

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Rock outcrop

Landform: Hills

Slope: 30 to 75 percent

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

Contrasting Inclusions

Tejabe and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Ecological site: R029XY073NV—Bouldery loam 8-12 P.Z.

Vinini and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Stewval and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, Nevada ephedra

Ecological site: R029XY045NV—Stony calcareous slope 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1942—Richinde-Chubard association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 5,700 to 6,000

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Richinde very gravelly sandy loam, 8 to 30 percent slopes—40 percent

Chubard very gravelly sandy loam, 2 to 15 percent slopes—30 percent

Chubard very gravelly sandy loam, 8 to 15 percent slopes—20 percent

Richinde very gravelly sandy loam, 15 to 30 percent slopes—4 percent

Ravendog loam, 2 to 8 percent slopes—2 percent

Rock outcrop, 15 to 50 percent slopes—2 percent

Handpah gravelly sandy loam, 8 to 30 percent slopes—2 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Chubard and similar soils

Landform: Hills

Slope: 2 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, other perennial forbs, black sagebrush, Nevada ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY015NV—Shallow calcareous hill 8-10 P.Z.

Component Description

Chubard and similar soils

Landform: Hills

Slope: 8 to 15 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Richinde and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Hills, southwest to southeast aspects

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Ravendog and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Lower inset fans

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Hills

Handpah and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1945—Chubard-Richinde association, cool

Map Unit Setting

MLRA: 28A

Landscape: Hills

Elevation: 5,000 to 5,600

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very gravelly fine sandy loam, cool, 4 to 15 percent slopes—60 percent

Richinde very gravelly sandy loam, cool, 8 to 30 percent slopes—25 percent

Rock outcrop, 15 to 50 percent slopes—9 percent

Sevenmile ashy sandy loam, 2 to 4 percent slopes—4 percent

Nuhelen extremely stony loam, cool, 8 to 30 percent slopes—2 percent

Component Description

Chubard and similar soils

Landform: Backslopes and summits of hills

Slope: 4 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects
 Slope: 8 to 30 percent
 Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones
 Layer 1—0 to 5 inches; very gravelly sandy loam
 Layer 2—5 to 18 inches; very gravelly sandy clay loam
 Layer 3—18 to 22 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: Lithic bedrock: 10 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: R028AY017NV—Shallow loam 8-10 P.Z.

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

Contrasting Inclusions

Rock outcrop

Composition: 0 to 9 percent
 Slope: 15 to 50 percent
 Landform: Hills

Sevenmile and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Nuhelen and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Hills, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

1946—Chubard, very stony-Chubard-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 6,400 to 7,400

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very stony sandy loam, 15 to 50 percent slopes—45 percent

Chubard very gravelly sandy loam, 8 to 30 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Chubard very gravelly fine sandy loam, 4 to 8 percent slopes—4 percent

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

Annabella sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Chubard and similar soils

Landform: Hills

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very stony sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description**Chubard and similar soils**

Landform: Hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description**Rock outcrop**

Landform: Hills

Slope: 30 to 75 percent

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

Contrasting Inclusions**Chubard and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 8 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Farepeak and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Annabella and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1948—Farepeak-Schoolmarm-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,150 to 8,600

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Farepeak very gravelly ashy loam, 15 to 50 percent slopes—40 percent

Schoolmarm gravelly ashy sandy loam, 30 to 50 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Winz extremely stony sandy loam, 50 to 75 percent slopes—9 percent

Hamtah very stony ashy sandy clay loam, 15 to 50 percent slopes—4 percent

Hardzem channery loam, 30 to 75 percent slopes—2 percent

Component Description

Farepeak and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Thurber's needlegrass, bottlebrush squirreltail, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:

Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones

Layer 1—0 to 3 inches; very gravelly ashy loam

Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam

Layer 3—13 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: Lithic bedrock: 10 to 14 inches

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

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: F029XY095NV

Component Description

Schoolmarm and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

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

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY126NV—Cobbly claypan

Component Description

Rock outcrop

Landform: Mountains
Slope: 30 to 75 percent

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

Contrasting Inclusions

Winz and similar soils

Composition: 0 to 9 percent
Slope: 50 to 75 percent
Landform: Mountains

Typical vegetation: Forest canopy—ponderosa pine Forest understory—Indian ricegrass, mountain big sagebrush, other perennial forbs, other perennial grasses, Utah serviceberry, ponderosa pine, muttongrass, needleandthread, blue grama, Gambel's oak, antelope bitterbrush

Ecological site: F029XY097NV

Hamtah and similar soils

Composition: 0 to 4 percent
Slope: 15 to 50 percent
Landform: Mountains

Typical vegetation: Blue grama, muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush, curleaf mountainmahogany, other shrubs

Ecological site: R029XY138NV—Mountain slope 12-14 P.Z.

Hardzem and similar soils

Composition: 0 to 2 percent
Slope: 30 to 75 percent
Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon, white fir Forest understory—Thurber's needlegrass, bottlebrush squirreltail, spike fescue, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, white fir, singleleaf pinyon

Ecological site: F029XY096NV

Management

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

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

1949—Richinde-Chubard association, cool

Map Unit Setting

MLRA: 28A
Landscape: Hills
Elevation: 5,350 to 6,500
Precipitation: 8 to 12 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Richinde very gravelly sandy loam, dry, 4 to 30 percent slopes—50 percent
Chubard very gravelly fine sandy loam, cool, 8 to 30 percent slopes—20 percent

Chubard very gravelly fine sandy loam, cool, 15 to 30 percent slopes—15 percent
 Sevenmile ashy sandy loam, 2 to 4 percent slopes—5 percent
 Rock outcrop, 30 to 75 percent slopes—5 percent
 Handpah gravelly sandy loam, cool, 2 to 4 percent slopes—5 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 4 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Chubard and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Chubard and similar soils

Landform: Hills
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones
 Layer 1—0 to 4 inches; very gravelly fine sandy loam
 Layer 2—4 to 7 inches; extremely gravelly sandy clay loam
 Layer 3—7 to 10 inches; extremely gravelly clay loam
 Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

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

Contrasting Inclusions

Sevenmile and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 4 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 75 percent
Landform: Hills

Handpah and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1955—Treadwell-Chuckridge-Handpah association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,250 to 5,050

Precipitation: 6 to 10 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Treadwell gravelly sandy loam, 4 to 15 percent slopes—50 percent

Chuckridge very cobbly loam, warm, 4 to 15 percent slopes—25 percent

Handpah gravelly sandy loam, 4 to 15 percent slopes—15 percent

Veet very gravelly sandy loam, 2 to 8 percent slopes—6 percent

Tybo gravelly fine sandy loam, 8 to 30 percent slopes—4 percent

Component Description

Treadwell and similar soils

Landform: Lower fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff and basalt and a component of calcareous loess derived from limestone

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, Nevada ephedra, spiny menodora, other shrubs

Typical profile:

Surface rock fragments: About 70 percent gravel

Layer 1—0 to 5 inches; gravelly sandy loam

Layer 2—5 to 8 inches; extremely gravelly sandy loam

Layer 3—8 to 35 inches; cemented material

Layer 4—35 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: High

Depth to restrictive feature: Duripan: 4 to 10 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 0.5 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R029XY161NV—Shallow cobbly loam

Component Description

Chuckridge and similar soils

Landform: Upper fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from rhyolite and basalt
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very cobbly loam
 Layer 2—2 to 11 inches; gravelly clay loam
 Layer 3—11 to 60 inches; cemented material

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: Duripan: 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Handpah and similar soils

Landform: Fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 2 inches; gravelly sandy loam
 Layer 2—2 to 8 inches; gravelly sandy clay loam
 Layer 3—8 to 14 inches; very gravelly sandy loam
 Layer 4—14 to 18 inches; cemented material
 Layer 5—18 to 60 inches; cemented material

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: Duripan: 14 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: R029XY006NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Tybo and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, Indian ricegrass, desert needlegrass, galleta, other perennial grasses, other perennial forbs, bud sagebrush, Nevada ephedra, spiny hopsage, Anderson's wolfberry, spiny menodora

Ecological site: R029XY031NV—Shallow droughty loam 5-8 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1957—Malmesa-Nevoyer-Treadwell association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 4,500 to 6,400

Precipitation: 6 to 10 inches

Air temperature: 50 to 57 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Malmesa very gravelly fine sandy loam, 4 to 30 percent slopes—40 percent

Nevoyer gravelly fine sandy loam, 4 to 15 percent slopes—30 percent

Treadwell gravelly sandy loam, 4 to 30 percent slopes—15 percent

Veet very gravelly sandy loam, 2 to 8 percent slopes—6 percent
 Rock outcrop, 15 to 50 percent slopes—5 percent
 Annabella sandy loam, 2 to 8 percent slopes—4 percent

Component Description

Malmesa and similar soils

Landform: Hills

Slope: 4 to 30 percent

Parent material: Residuum derived from basalt

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 28 percent gravel, 5 percent fine gravel, 21 percent cobbles, 2 percent stones

Layer 1—0 to 3 inches; very gravelly fine sandy loam

Layer 2—3 to 12 inches; very gravelly sandy clay loam

Layer 3—12 to 16 inches; very gravelly loam

Layer 4—16 to 17 inches; cemented material

Layer 5—17 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: Duripan: 14 to 20 inches Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: 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: R029XY010NV—Loamy slope 8-10 P.Z.

Component Description

Nevoyer and similar soils

Landform: Hills

Slope: 4 to 15 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 25 percent fine gravel, 25 percent gravel, 5 percent stones, 15 percent cobbles

Layer 1—0 to 4 inches; gravelly ashy fine sandy loam

Layer 2—4 to 17 inches; gravelly ashy fine sandy loam

Layer 3—17 to 18 inches; cemented material

Layer 4—18 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: Duripan: 8 to 18 inches Lithic bedrock: 9 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Treadwell and similar soils

Landform: Upper fan remnants
 Slope: 4 to 30 percent
 Parent material: Alluvium derived from welded tuff and basalt and a component of calcareous loess derived from limestone
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, Nevada ephedra, spiny menodora, other shrubs

Typical profile:

Surface rock fragments: About 70 percent gravel
 Layer 1—0 to 5 inches; gravelly sandy loam
 Layer 2—5 to 8 inches; extremely gravelly sandy loam
 Layer 3—8 to 35 inches; cemented material
 Layer 4—35 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: High
 Depth to restrictive feature: Duripan: 4 to 10 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 0.5 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R029XY161NV—Shallow cobbly loam

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Hills

Annabella and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1958—Nevoyer-Lomoine-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 4,600 to 5,500

Precipitation: 8 to 10 inches

Air temperature: 50 to 57 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Nevoyer gravelly ashy fine sandy loam, 4 to 15 percent slopes—40 percent

Lomoine very gravelly sandy loam, 8 to 30 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Tejabe very stony sandy loam, 15 to 50 percent slopes—8 percent

Annabella sandy loam, 2 to 8 percent slopes—5 percent

Beelem gravelly sandy loam, 15 to 50 percent slopes—2 percent

Component Description

Nevoyer and similar soils

Landform: Hills

Slope: 4 to 15 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 25 percent fine gravel, 25 percent gravel, 15 percent cobbles, 5 percent stones

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

Layer 2—4 to 17 inches; gravelly fine sandy loam

Layer 3—17 to 18 inches; cemented material

Layer 4—18 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: Duripan: 8 to 18 inches Lithic bedrock: 9 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description**Lomoine and similar soils**

Landform: Hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, Nevada ephedra, Indian ricegrass

Typical profile:

Layer 1—0 to 3 inches; very gravelly sandy loam

Layer 2—3 to 4 inches; very gravelly sandy loam

Layer 3—4 to 8 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: Lithic bedrock: 4 to 14 inches

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

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY045NV—Stony calcareous slope 8-12 P.Z.

Component Description**Rock outcrop**

Landform: Hills

Slope: 30 to 75 percent

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

Contrasting Inclusions**Tejabe and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs
 Ecological site: R029XY073NV—Bouldery loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Beelem and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1959—Rock outcrop-Rubble land-Chubard association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 4,350 to 7,200

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Rock outcrop, 30 to 100 percent slopes—35 percent

Rubble land, 30 to 75 percent slopes—30 percent

Chubard very cobbly sandy loam, dry, 15 to 50 percent slopes—20 percent

Treadwell gravelly sandy loam, 8 to 30 percent slopes—9 percent

Richinde very gravelly ashy sandy loam, 2 to 15 percent slopes—6 percent

Component Description

Rock outcrop

Landform: Hills, east aspect

Slope: 30 to 100 percent

Component Description

Rubble land

Landform: Hills, east aspect

Slope: 30 to 75 percent

Component Description

Chubard and similar soils

Landform: Hills, east aspect

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, Nevada ephedra

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very cobbly ashy sandy loam

Layer 2—4 to 7 inches; extremely gravelly ashy sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly ashy clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY045NV—Stony calcareous slope 8-12 P.Z.

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

Contrasting Inclusions

Treadwell and similar soils

Composition: 0 to 9 percent

Slope: 8 to 30 percent

Landform: Ballenas, east aspect

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, Nevada ephedra, spiny menodora, other shrubs

Ecological site: R029XY161NV—Shallow cobbly loam

Richinde and similar soils

Composition: 0 to 6 percent

Slope: 2 to 15 percent

Landform: Hills, east aspect

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Ecological site: R029XY073NV—Bouldery loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1960—Devildog association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,350 to 6,200

Precipitation: 8 to 10 inches

Air temperature: 50 to 53 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Devildog very gravelly ashy coarse sandy loam, dry, 2 to 8 percent slopes—55 percent

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

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—9 percent

Devildog very gravelly ashy coarse sandy loam, 2 to 4 percent slopes—3 percent

Lojet coarse sandy loam, 4 to 15 percent slopes—3 percent

Component Description**Devildog and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 6c

Ecological site: R029XY009NV—Upland wash

Component Description**Devildog and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 6c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions**Riverwash**

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Drainageways

Devildog and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Lojet and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

1989—Gabbvally-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 5,400 to 5,800

Precipitation: 9 to 11 inches

Air temperature: 52 to 54 degrees Fahrenheit

Frost-free period: 120 to 130 days

Composition

Gabbvally very stony loam, 8 to 30 percent slopes—70 percent

Rock outcrop, 15 to 50 percent slopes—15 percent

Stewval very gravelly fine sandy loam, 8 to 50 percent slopes—8 percent

Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—4 percent

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—3 percent

Component Description

Gabbvally and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 2 inches; very stony loam

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

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 inches

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

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: R029XY010NV—Loamy slope 8-10 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Slope: 15 to 50 percent

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

Contrasting Inclusions

Stewval and similar soils

Composition: 0 to 8 percent

Slope: 8 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Devildog and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Riverwash

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

1990—Richinde-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 4,450 to 6,950

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Richinde very gravelly sandy loam, 15 to 50 percent slopes—70 percent

Rock outcrop, 15 to 50 percent slopes—15 percent

Chubard very gravelly sandy loam, 15 to 50 percent slopes—8 percent

Annabella sandy loam, 2 to 4 percent slopes—4 percent

Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—3 percent

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY010NV—Loamy slope 8-10 P.Z.

Component Description**Rock outcrop**

Landform: Mountains

Slope: 15 to 50 percent

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

Contrasting Inclusions**Chubard and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs, Indian ricegrass

Ecological site: R029XY009NV—Upland wash

Riverwash

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Drainageways

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2000—Playas

Map Unit Setting

MLRA: 29
Landscape: Bolson
Elevation: 4,550 to 5,000

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
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 of this publication:

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

2010—Chuffa association

Map Unit Setting

MLRA: 28A
Landscape: Lake plain
Elevation: 5,900 to 6,050
Precipitation: 8 to 10 inches
Air temperature: 46 to 50 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Chuffa silt loam, 0 to 2 percent slopes—60 percent
Chuffa silt loam, dry, 0 to 2 percent slopes—25 percent
Ragnel loamy fine sand, 2 to 4 percent slopes—6 percent
Linoyer very fine sandy loam, 0 to 2 percent slopes—4 percent
Kolda silt loam, 0 to 2 percent slopes—3 percent
Duffer silt loam, 0 to 2 percent slopes—2 percent

Component Description

Chuffa and similar soils

Landform: Lake plains

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits from mixed rock sources

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 3 inches; silt loam

Layer 2—3 to 13 inches; loam

Layer 3—13 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: Low

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

Available water capacity: About 12 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Component Description

Chuffa and similar soils

Landform: Lower lake plains

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits from mixed rock sources

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 3 inches; silt loam

Layer 2—3 to 13 inches; loam

Layer 3—13 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: Low

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

Available water capacity: About 12 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R028AY001NV—Silt flat

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

Contrasting Inclusions

Ragnel and similar soils

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Barrier beaches

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Kolda and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

Duffer and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Sedge, inland saltgrass, Baltic rush, bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, other perennial forbs, other shrubs

Ecological site: R028BY002NV—Saline meadow

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2020—Yobe complex

Map Unit Setting

MLRA: 28A

Landscape: Bolson

Elevation: 5,900 to 5,950

Precipitation: 4 to 8 inches

Air temperature: 51 to 57 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Yobe silt loam, 0 to 2 percent slopes—70 percent

Yobe silt loam, moist, 0 to 2 percent slopes—15 percent

Kawich fine sand, 2 to 4 percent slopes—8 percent
 Springbar sandy loam, 0 to 8 percent slopes—4 percent
 Devilsgait silt loam, 0 to 2 percent slopes—3 percent

Component Description

Yobe and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 11 inches; silt loam

Layer 2—11 to 18 inches; silty clay loam

Layer 3—18 to 60 inches; 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: Moderately slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7w

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Component Description

Yobe and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from mixed rock sources

Typical vegetation: Sedge, inland saltgrass, Baltic rush, alkali bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, King's ivesia, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 11 inches; silt loam

Layer 2—11 to 18 inches; silty clay loam

Layer 3—18 to 60 inches; 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: Moderately slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches
 Present flooding: Occasional
 Present ponding: None
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7w
 Ecological site: R028AY105NV—Saline meadow

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

Contrasting Inclusions

Kawich and similar soils

Composition: 0 to 8 percent
 Slope: 2 to 4 percent
 Landform: Dunes
 Typical vegetation: Indian ricegrass, alkali sacaton, fourwing saltbush, spiny hopsage, black greasewood, other shrubs
 Ecological site: R028AY011NV—Sodic dune

Springbar and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 8 percent
 Landform: Sand sheets
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY005NV—Sandy 8-10 P.Z.

Devilsgait and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: channels
 Typical vegetation: Inland saltgrass, streambank wheatgrass, basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs
 Ecological site: R028BY041NV—Dry floodplain

Management

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

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

2030—Teebone-Yobe association

Map Unit Setting

MLRA: 28A
 Landscape: Bolson
 Elevation: 5,900 to 5,950
 Precipitation: 6 to 10 inches
 Air temperature: 46 to 53 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Teebone silty clay loam, 0 to 2 percent slopes—55 percent
 Yobe silt loam, 0 to 2 percent slopes—30 percent
 Pern silt loam, 0 to 2 percent slopes—8 percent
 Kawich fine sand, 2 to 4 percent slopes—4 percent
 Benin silt loam, 0 to 2 percent slopes—3 percent

Component Description

Teebone and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 2 inches; silty clay loam

Layer 2—2 to 31 inches; silty clay loam

Layer 3—31 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: Negligible

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 12 inches

Present flooding: None

Present ponding: Occasional

Water table: Present

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Component Description

Yobe and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from mixed rock sources

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 11 inches; silt loam

Layer 2—11 to 18 inches; silty clay loam

Layer 3—18 to 60 inches; 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: Moderately slow)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 5 inches
 Present flooding: Occasional
 Present ponding: None
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7w
 Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

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

Contrasting Inclusions

Pern and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Inland saltgrass, streambank wheatgrass, basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs
 Ecological site: R028BY041NV—Dry floodplain

Kawich and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 4 percent
 Landform: Dunes
 Typical vegetation: Indian ricegrass, alkali sacaton, fourwing saltbush, spiny hopsage, black greasewood, other shrubs
 Ecological site: R028AY011NV—Sodic dune

Benin and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Dissected lake plains
 Typical vegetation: Inland saltgrass, basin wildrye, black greasewood, other shrubs
 Ecological site: R028BY069NV—Sodic flat 8-10 P.Z.

Management

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

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

2041—Kolda-Duffer association

Map Unit Setting

MLRA: 28A
 Landscape: Bolson
 Elevation: 5,900 to 6,000
 Precipitation: 7 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Kolda silt loam, 0 to 2 percent slopes—55 percent
 Duffer silt loam, moist, 0 to 2 percent slopes—30 percent
 Badena extremely cobbly loam, 2 to 4 percent slopes—5 percent
 Raph loam, 0 to 4 percent slopes—5 percent
 Bigspring gravelly sandy loam, 2 to 4 percent slopes—5 percent

Component Description

Kolda and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium over lacustrine deposits derived from mixed rock sources
 Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 6 inches; silt loam
 Layer 2—6 to 22 inches; silt loam
 Layer 3—22 to 60 inches; silty 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): Moderately Low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Available water capacity: About 10 inches
 Present flooding: None
 Present ponding: Occasional
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Irrigated land capability: 6w
 Nonirrigated land capability: 7w
 Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

Component Description

Duffer and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Loess, alluvium and lacustrine deposits from mixed rock sources
 Typical vegetation: Sedge, inland saltgrass, Baltic rush, bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 11 inches; silt loam
 Layer 2—11 to 48 inches; silty clay loam
 Layer 3—48 to 66 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: Negligible

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: Occasional
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w
 Nonirrigated land capability: 7w
 Ecological site: R028BY002NV—Saline meadow

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

Contrasting Inclusions

Badena and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 4 percent
 Landform: Alluvial flats
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Raph and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Beach plains
 Typical vegetation: Other perennial grasses, Indian ricegrass, bottlebrush squirreltail, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs
 Ecological site: R028BY074NV—Sodic terrace 5-8 P.Z.

Bigspring and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 4 percent
 Landform: Basin floor remnants
 Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs
 Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Management

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

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

2050—Ragnel very gravelly loamy sand, 2 to 8 percent slopes

Map Unit Setting

MLRA: 28A
 Landscape: Bolson
 Elevation: 5,900 to 6,000

Precipitation: 8 to 10 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Ragnel very gravelly loamy sand, 2 to 8 percent slopes—90 percent
 Medburn silt loam, 2 to 4 percent slopes—8 percent
 Heist loamy sand, 2 to 8 percent slopes—2 percent

Component Description

Ragnel and similar soils

Landform: Barrier beaches
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly loamy sand
 Layer 2—3 to 11 inches; very gravelly sandy loam
 Layer 3—11 to 60 inches; very 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)
 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: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Medburn and similar soils

Composition: 0 to 8 percent
 Slope: 2 to 4 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Heist and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Lower fan skirts
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2060—Crestline-Veet association**Map Unit Setting**

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,900 to 6,150

Precipitation: 8 to 10 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Crestline fine sandy loam, dry, 0 to 2 percent slopes—40 percent

Crestline fine sandy loam, 0 to 2 percent slopes—25 percent

Veet very gravelly sandy loam, cool, 0 to 2 percent slopes—20 percent

Ragnel loamy fine sand, 2 to 8 percent slopes—9 percent

Zoda gravelly ashly sandy loam, 2 to 8 percent slopes—6 percent

Component Description**Crestline and similar soils**

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 5 percent gravel

Layer 1—0 to 5 inches; fine sandy loam

Layer 2—5 to 10 inches; loam

Layer 3—10 to 51 inches; gravelly sandy loam

Layer 4—51 to 60 inches; very gravelly loamy 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: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY001NV—Silt flat

Component Description**Crestline and similar soils**

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 5 percent gravel

Layer 1—0 to 5 inches; fine sandy loam

Layer 2—5 to 10 inches; loam

Layer 3—10 to 51 inches; gravelly sandy loam

Layer 4—51 to 60 inches; very gravelly loamy 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: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Veet and similar soils

Landform: Inset fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

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

Layer 2—4 to 16 inches; very gravelly sandy loam

Layer 3—16 to 60 inches; stratified very gravelly loamy coarse sand to extremely gravelly 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 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Ragnel and similar soils

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Barrier beaches

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Zoda and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2061—Crestline-Linoyer association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,000 to 6,400

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Crestline fine sandy loam, 0 to 4 percent slopes—70 percent

Linoyer very fine sandy loam, dry, 0 to 2 percent slopes—15 percent

Veet very gravelly sandy loam, 0 to 2 percent slopes—8 percent

Zoda gravelly ashy sandy loam, 2 to 8 percent slopes—3 percent

Cath coarse sandy loam, 2 to 8 percent slopes—2 percent

Ravendog loam, 0 to 4 percent slopes—2 percent

Component Description

Crestline and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 5 percent gravel

Layer 1—0 to 5 inches; fine sandy loam
 Layer 2—5 to 10 inches; loam
 Layer 3—10 to 51 inches; gravelly sandy loam
 Layer 4—51 to 60 inches; very gravelly loamy 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: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Linoyer and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone
 Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 11 inches; very fine sandy loam
 Layer 2—11 to 60 inches; 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 10 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 6e
 Ecological site: R028AY001NV—Silt flat

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Zoda and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Cath and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
 Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Ravendog and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
 Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2071—Chuffa-Linoyer-Playas complex

Map Unit Setting

MLRA: 28A

Landscape: Bolson

Elevation: 5,950 to 6,050

Precipitation: 8 to 10 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Chuffa silt loam, dry, 0 to 2 percent slopes—50 percent

Linoyer very fine sandy loam, 0 to 2 percent slopes—20 percent

Playas silty clay loam, 0 to 1 percent slopes—15 percent

Chuffa silt loam, 0 to 2 percent slopes—8 percent

Benin silt loam, 0 to 2 percent slopes—7 percent

Component Description

Chuffa and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits from mixed rock sources

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 3 inches; silt loam

Layer 2—3 to 13 inches; loam

Layer 3—13 to 60 inches; 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 12 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R028AY001NV—Silt flat

Component Description

Linoyer and similar soils

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 11 inches; very fine sandy loam

Layer 2—11 to 60 inches; 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 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6e

Ecological site: R028AY030NV—Silty 8-10 P.Z.

Component Description

Playas

Landform: Basin floors

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Present ponding: Frequent

Water table: Present

Interpretive Groups

Nonirrigated land capability: 8w

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

Contrasting Inclusions

Chuffa and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Benin and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Dissected lake plains

Typical vegetation: Inland saltgrass, basin wildrye, black greasewood, other shrubs

Ecological site: R028BY069NV—Sodic flat 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2100—Glotrain-Devildog association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,250 to 5,800

Precipitation: 6 to 10 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 110 to 150 days

Composition

Glotrain gravelly coarse sandy loam, 2 to 8 percent slopes—50 percent

Devildog very gravelly ashy coarse sandy loam, 0 to 4 percent slopes—40 percent

Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—6 percent

Koyen loamy sand, 2 to 8 percent slopes—4 percent

Component Description

Glotrain and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 10 percent gravel

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

Layer 2—4 to 26 inches; gravelly coarse sandy loam

Layer 3—26 to 60 inches; stratified coarse sand to very gravelly loamy 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: Moderate)

Available water capacity: About 8 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Component Description

Devildog and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; gravelly sandy 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 6c
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Devildog and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs
 Ecological site: R029XY009NV—Upland wash

Koyen and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 8 percent
 Landform: Fan aprons
 Typical vegetation: Indian ricegrass, fourwing saltbush, Nevada ephedra, spiny hopsage
 Ecological site: R029XY016NV—Loamy upland 5-8 P.Z.

Management

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

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

2120—Sevenmile-Devildog association

Map Unit Setting

MLRA: 29
 Landscape: Fan piedmont
 Elevation: 5,400 to 6,400
 Precipitation: 8 to 10 inches
 Air temperature: 50 to 55 degrees Fahrenheit
 Frost-free period: 110 to 150 days

Composition

Sevenmile ashy sandy loam, 0 to 4 percent slopes—50 percent
 Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—35 percent
 Qwynn gravelly ashy coarse sandy loam, 2 to 8 percent slopes—6 percent
 Gardenvalley gravelly ashy fine sandy loam, 0 to 4 percent slopes—6 percent
 Pahrnagat silty clay loam, 0 to 2 percent slopes—3 percent

Component Description

Sevenmile and similar soils

Landform: Lower inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff and some limestone and quartzite
 Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Component Description**Devildog and similar soils**

Landform: Upper inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions**Qwynn and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Adjacent fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Gardenvalley and similar soils

Composition: 0 to 6 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Pahranagat and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Typical vegetation: Basin wildrye, beardless wildrye, western wheatgrass, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R029XY003NV—Loamy bottom 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2122—Lojet-Littleailie association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,500 to 6,750

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Lojet coarse sandy loam, 2 to 8 percent slopes—75 percent

Littleailie gravelly sandy loam, 4 to 15 percent slopes—15 percent

Sevenmile ashy sandy loam, 0 to 2 percent slopes—4 percent

Littleailie gravelly sandy loam, 8 to 15 percent slopes—3 percent

Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—3 percent

Component Description

Lojet and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 10 percent gravel
 Layer 1—0 to 4 inches; ashy coarse sandy loam
 Layer 2—4 to 11 inches; ashy sandy clay loam
 Layer 3—11 to 35 inches; gravelly ashy sandy clay loam
 Layer 4—35 to 41 inches; cemented material
 Layer 5—41 to 60 inches; very gravelly ashy coarse sandy loam

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: Duripan: 20 to 39 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 5 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description**Littleailie and similar soils**

Landform: Fan remnants
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from welded tuff with a minor amounts of volcanic ash and alluvium derived from limestone
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel
 Layer 1—0 to 3 inches; gravelly sandy loam
 Layer 2—3 to 8 inches; gravelly sandy loam
 Layer 3—8 to 19 inches; very gravelly sandy loam
 Layer 4—19 to 41 inches; cemented material
 Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Sevenmile and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Littleailie and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Devildog and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2123—Littleailie-Lojet association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 4,500 to 6,800

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Littleailie gravelly sandy loam, 4 to 15 percent slopes—60 percent

Lojet coarse sandy loam, 2 to 8 percent slopes—30 percent

Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—4 percent

Devildog very gravelly ashy coarse sandy loam, 0 to 4 percent slopes—4 percent

Gardenvalley gravelly fine sandy loam, 0 to 4 percent slopes—2 percent

Component Description

Littleailie and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff with a minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 8 inches; gravelly sandy loam

Layer 3—8 to 19 inches; very gravelly sandy loam

Layer 4—19 to 41 inches; cemented material

Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Lojet and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 10 percent gravel

Layer 1—0 to 4 inches; coarse sandy loam

Layer 2—4 to 11 inches; sandy clay loam

Layer 3—11 to 35 inches; gravelly sandy clay loam

Layer 4—35 to 41 inches; cemented material

Layer 5—41 to 60 inches; very gravelly coarse sandy loam

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: Duripan: 20 to 39 inches

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

Available water capacity: About 5 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions**Qwynn and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Devildog and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Gardenvalley and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2280—Granquin-Schoolmarm-Starflyer association***Map Unit Setting***

MLRA: 29

Landscape: Mountains

Elevation: 6,300 to 7,800

Precipitation: 10 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Granquin very gravelly very fine sandy loam, 8 to 30 percent slopes—40 percent

Schoolmarm very cobbly ashy sandy loam, warm, 15 to 50 percent slopes—30 percent

Starflyer very cobbly ashy sandy loam, warm, 30 to 50 percent slopes—15 percent

Schoolmarm gravelly ashy coarse sandy loam, 8 to 30 percent slopes—5 percent

Cagas extremely cobbly ashy sandy loam, 15 to 50 percent slopes—5 percent

Rock outcrop, 30 to 75 percent slopes—5 percent

Component Description

Granquin and similar soils

Landform: Shoulders of mountains

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, low sagebrush, other shrubs, singleleaf pinyon

Site index: Utah juniper—25 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 25 percent fine gravel, 25 percent gravel, 20 percent cobbles, 5 percent stones

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

Layer 2—2 to 14 inches; very gravelly sandy clay loam

Layer 3—14 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: Lithic bedrock: 10 to 20 inches

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

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: F029XY068NV

Component Description

Schoolmarm and similar soils

Landform: Summits of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, low sagebrush, other shrubs

Typical profile:

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

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY055NV—Claypan 12-16 P.Z.

Component Description

Starflyer and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 65 percent cobbles, 20 percent gravel

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

Layer 2—3 to 18 inches; very cobbly ashy sandy clay loam

Layer 3—18 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY106NV—Gravelly clay slope 10-12 P.Z.

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

Contrasting Inclusions

Schoolmarm and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Needlegrass, bluegrass, other perennial grasses, other perennial forbs, low sagebrush, fringed sagewort, other shrubs

Ecological site: R029XY053NV—Mountain ridge 16+ P.Z.

Cagas and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Thurber's needlegrass, bottlebrush squirreltail, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY095NV

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

2283—Rock outcrop-Chubard-Richinde association***Map Unit Setting***

MLRA: 29

Landscape: Hills

Elevation: 6,150 to 7,550

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Rock outcrop, 50 to 75 percent slopes—50 percent

Chubard very gravelly sandy loam, 50 to 75 percent slopes—25 percent

Richinde very gravelly sandy loam, 15 to 50 percent slopes—15 percent

Rubble land, 50 to 75 percent slopes—5 percent

Devildog very gravelly ashy coarse sandy loam, 0 to 4 percent slopes—5 percent

Component Description**Rock outcrop**

Landform: Hills

Slope: 50 to 75 percent

Component Description**Chubard and similar soils**

Landform: Hills

Slope: 50 to 75 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones
 Layer 1—0 to 5 inches; very gravelly sandy loam
 Layer 2—5 to 18 inches; very gravelly sandy clay loam
 Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY010NV—Loamy slope 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 5 percent
 Slope: 50 to 75 percent
 Landform: Hills

Devildog and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs
 Ecological site: R029XY009NV—Upland wash

Management

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

2284—Starflyer association

Map Unit Setting

MLRA: 29
 Landscape: Mountains
 Elevation: 6,000 to 6,850
 Precipitation: 10 to 14 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 70 to 100 days

Composition

Starflyer very cobbly ashy coarse sandy loam, 15 to 50 percent slopes—45 percent
 Starflyer very cobbly ashy coarse sandy loam, 50 to 75 percent slopes—40 percent
 Rubble land, 50 to 100 percent slopes—8 percent
 Schoolmarm gravelly ashy sandy loam, 50 to 75 percent slopes—5 percent
 Rock outcrop, 75 to 100 percent slopes—2 percent

Component Description

Starflyer and similar soils

Landform: Mountains
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 65 percent cobbles, 20 percent gravel
 Layer 1—0 to 3 inches; very cobbly ashy coarse sandy loam
 Layer 2—3 to 18 inches; very cobbly ashy sandy clay loam
 Layer 3—18 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: Lithic bedrock: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Component Description

Starflyer and similar soils

Landform: Mountains

Slope: 50 to 75 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 65 percent cobbles, 20 percent gravel

Layer 1—0 to 3 inches; very cobbly ashy coarse sandy loam

Layer 2—3 to 18 inches; very cobbly ashy sandy clay loam

Layer 3—18 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY106NV—Gravelly clay slope 10-12 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: 50 to 100 percent

Landform: Mountains

Schoolmarm and similar soils

Composition: 0 to 5 percent

Slope: 50 to 75 percent

Landform: Ridges

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, low sagebrush, other shrubs

Ecological site: R029XY055NV—Claypan 12-16 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Slope: 75 to 100 percent

Landform: Mountains

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2285—Schoolmarm-Starflyer association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,150 to 8,200

Precipitation: 10 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Schoolmarm very cobbly ashy sandy loam, warm, 30 to 50 percent slopes—35 percent

Starflyer very cobbly ashy coarse sandy loam, warm, 30 to 50 percent slopes—30 percent

Schoolmarm very cobbly ashy sandy loam, warm, 8 to 30 percent slopes—20 percent

Rock outcrop, 50 to 75 percent slopes—5 percent

Granquin very gravelly very fine sandy loam, 8 to 30 percent slopes—5 percent

Cagas extremely cobbly ashy sandy loam, 30 to 75 percent slopes—3 percent

Starflyer very cobbly ashy coarse sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Schoolmarm and similar soils

Landform: Summits of mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, low sagebrush, other shrubs

Typical profile:

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

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY055NV—Claypan 12-16 P.Z.

Component Description

Starflyer and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 65 percent cobbles, 20 percent gravel

Layer 1—0 to 3 inches; very cobbly ashy coarse sandy loam

Layer 2—3 to 18 inches; very cobbly ashy sandy clay loam

Layer 3—18 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY106NV—Gravelly clay slope 10-12 P.Z.

Component Description

Schoolmarm and similar soils

Landform: Summits of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, low sagebrush, other shrubs

Typical profile:

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

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY055NV—Claypan 12-16 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

Slope: 50 to 75 percent
Landform: Mountains

Granquin and similar soils

Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Mountains

Typical vegetation: Indian ricegrass, desert needlegrass, galleta, other perennial grasses, other perennial forbs, low sagebrush, bud sagebrush, winterfat, other shrubs
Ecological site: R029XY062NV—Claypan 8-12 P. Z.

Cagas and similar soils

Composition: 0 to 3 percent
Slope: 30 to 75 percent
Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Thurber's needlegrass, bottlebrush squirreltail, muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F029XY095NV

Starflyer and similar soils

Composition: 0 to 2 percent
Slope: 4 to 15 percent
Landform: Mountains

Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, Stansbury cliffrose, other shrubs
Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Management

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

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

2286—Schoolmarm-Rock outcrop association

Map Unit Setting

MLRA: 29
Landscape: Mountains
Elevation: 6,750 to 7,450
Precipitation: 12 to 16 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 70 to 100 days

Composition

Schoolmarm very cobbly ashy sandy loam, warm, 30 to 50 percent slopes—60 percent
Rock outcrop, 50 to 75 percent slopes—25 percent
Starflyer very cobbly ashy coarse sandy loam, warm, 30 to 50 percent slopes—5 percent
Granquin very gravelly very fine sandy loam, 8 to 30 percent slopes—5 percent
Chubard very gravelly fine sandy loam, 8 to 15 percent slopes—3 percent
Lien very gravelly sandy loam, warm, 2 to 15 percent slopes—2 percent

Component Description

Schoolmarm and similar soils

Landform: Summits of mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, low sagebrush, other shrubs

Typical profile:

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

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY055NV—Claypan 12-16 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

Starflyer and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, antelope bitterbrush, other shrubs

Ecological site: R029XY106NV—Gravelly clay slope 10-12 P.Z.

Granquin and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Shoulders of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, low sagebrush, other shrubs, singleleaf pinyon

Ecological site: F029XY068NV

Chubard and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Footslopes of mountains

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Lien and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, blue grama, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, Nevada ephedra, muttongrass, other shrubs, other trees

Ecological site: R029XY104NV—Shallow clay loam 8-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

2287—Granquin-Rock outcrop-Schoolmarm association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,500 to 8,000

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Granquin very gravelly very fine sandy loam, 15 to 50 percent slopes—50 percent

Rock outcrop, 30 to 75 percent slopes—20 percent

Schoolmarm extremely cobbly ash sandy loam, 8 to 30 percent slopes—15 percent

Richinde very gravelly sandy loam, 2 to 15 percent slopes—5 percent

Starflyer very cobbly ash coarse sandy loam, 50 to 75 percent slopes—5 percent

Chubard very gravelly fine sandy loam, 8 to 15 percent slopes—5 percent

Component Description

Granquin and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, low sagebrush, other shrubs, singleleaf pinyon

Site index: Utah juniper—25 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 25 percent fine gravel, 25 percent gravel, 20 percent cobbles, 5 percent stones

Layer 1—0 to 2 inches; very gravelly very fine sandy loam
 Layer 2—2 to 14 inches; very gravelly sandy clay loam
 Layer 3—14 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: Lithic bedrock: 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 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: F029XY068NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

Component Description

Schoolmarm and similar soils

Landform: Summits of mountains
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from welded tuff
 Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; extremely cobbly ashy sandy loam
 Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam
 Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028BY039NV—Cobbly claypan 12-14 P.Z.

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

Contrasting Inclusions

Richinde and similar soils

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Hills, southwest to southeast aspects

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs

Ecological site: R029XY075NV—Loamy slope 10-12 P.Z.

Starflyer and similar soils

Composition: 0 to 5 percent

Slope: 50 to 75 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, antelope bitterbrush, other shrubs

Ecological site: R029XY106NV—Gravelly clay slope 10-12 P.Z.

Chubard and similar soils

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Footslopes of mountains

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2288—Schoolmarm-Granquin-Rock outcrop association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 6,500 to 7,800

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Schoolmarm extremely gravelly ashy sandy loam, 8 to 30 percent slopes—40 percent

Granquin very gravelly very fine sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop, 30 to 75 percent slopes—20 percent

Richinde very gravelly sandy loam, 15 to 30 percent slopes—5 percent

Starflyer very cobbly ashy coarse sandy loam, 15 to 30 percent slopes—5 percent

Chubard very gravelly fine sandy loam, 8 to 30 percent slopes—5 percent

Component Description

Schoolmarm and similar soils

Landform: Summits of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

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

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028BY039NV—Cobbly claypan 12-14 P.Z.

Component Description

Granquin and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, Utah serviceberry, low sagebrush, other shrubs, singleleaf pinyon

Site index: Utah juniper—25 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 25 percent fine gravel, 25 percent gravel, 20 percent cobbles, 5 percent stones

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

Layer 2—2 to 14 inches; very gravelly sandy clay loam

Layer 3—14 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: Lithic bedrock: 10 to 20 inches

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

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: F029XY068NV

Component Description

Rock outcrop

Landform: Mountains
Slope: 30 to 75 percent

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

Contrasting Inclusions

Richinde and similar soils

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Hills, southwest to southeast aspects
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs
Ecological site: R029XY075NV—Loamy slope 10-12 P.Z.

Starflyer and similar soils

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Mountains
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, antelope bitterbrush, other shrubs
Ecological site: R029XY106NV—Gravelly clay slope 10-12 P.Z.

Chubard and similar soils

Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Footslopes of mountains
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees
Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Management

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

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

2290—Richinde-Chubard-Rock outcrop association

Map Unit Setting

MLRA: 29
Landscape: Hills
Elevation: 4,600 to 7,050
Precipitation: 8 to 12 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Richinde very gravelly sandy loam, 4 to 15 percent slopes—40 percent
Chubard very gravelly sandy loam, 8 to 30 percent slopes—30 percent
Rock outcrop, 30 to 50 percent slopes—20 percent

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

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

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 4 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY073NV—Bouldery loam 8-12 P.Z.

Component Description

Chubard and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, other perennial forbs, black sagebrush, Nevada ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY015NV—Shallow calcareous hill 8-10 P.Z.

Component Description

Rock outcrop

Landform: Hills

Slope: 30 to 50 percent

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

Contrasting Inclusions

Richinde and similar soils

Composition: 0 to 8 percent

Slope: 2 to 15 percent

Landform: Hills, southwest to southeast aspects

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Chubard and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2292—Chubard-Richinde association

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 5,000 to 5,600

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very gravelly fine sandy loam, 8 to 30 percent slopes—50 percent

Richinde very gravelly sandy loam, dry, 4 to 15 percent slopes—40 percent

Rock outcrop, 15 to 50 percent slopes—4 percent

Annabella sandy loam, 0 to 2 percent slopes—2 percent
 Richinde very gravelly sandy loam, 4 to 15 percent slopes—2 percent
 Richinde very gravelly sandy loam, 8 to 15 percent slopes—2 percent

Component Description

Chubard and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Richinde and similar soils

Landform: Hills, southwest to southeast aspects

Slope: 4 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY010NV—Loamy slope 8-10 P.Z.

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

Contrasting Inclusions

Rock outcrop

Composition: 0 to 4 percent
 Slope: 15 to 50 percent
 Landform: Hills

Annabella and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs
 Ecological site: R029XY009NV—Upland wash

Richinde and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Hills, southwest to southeast aspects
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush
 Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Richinde and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Hills, southwest to southeast aspects
 Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, big sagebrush, green ephedra, Stansbury cliffrose, other shrubs
 Ecological site: R029XY073NV—Bouldery loam 8-12 P.Z.

Management

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

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

2296—Chubard association

Map Unit Setting

MLRA: 28A

Landscape: Hills

Elevation: 6,200 to 7,200

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very gravelly fine sandy loam, 2 to 15 percent slopes—40 percent

Chubard very gravelly sandy loam, thin surface, 8 to 30 percent slopes—25 percent

Chubard very gravelly sandy loam, 8 to 30 percent slopes—20 percent

Rock outcrop, 15 to 50 percent slopes—5 percent

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

Sevenmile ashy sandy loam, 0 to 4 percent slopes—5 percent

Component Description

Chubard and similar soils

Landform: Hills

Slope: 2 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Chubard and similar soils

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones
 Layer 1—0 to 4 inches; very gravelly sandy loam
 Layer 2—4 to 7 inches; extremely gravelly sandy clay loam
 Layer 3—7 to 10 inches; extremely gravelly clay loam
 Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description**Chubard and similar soils**

Landform: Backslopes of hills
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from welded tuff
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones
 Layer 1—0 to 4 inches; very gravelly sandy loam
 Layer 2—4 to 7 inches; extremely gravelly sandy clay loam
 Layer 3—7 to 10 inches; extremely gravelly clay loam
 Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY027NV—Shallow calcareous hill 8-10 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
Slope: 15 to 50 percent
Landform: Hills

Richinde and similar soils

Composition: 0 to 5 percent
Slope: 4 to 15 percent
Landform: Hills, southwest to southeast aspects
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Sevenmile and similar soils

Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Management

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

2297—Chubard-Richinde-Rock outcrop association, steep

Map Unit Setting

MLRA: 29
Landscape: Hills
Elevation: 4,600 to 7,600
Precipitation: 8 to 12 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Chubard very gravelly sandy loam, 15 to 50 percent slopes—50 percent
Richinde very gravelly sandy loam, 4 to 30 percent slopes—25 percent
Rock outcrop, 15 to 75 percent slopes—15 percent
Ravendog loam, 2 to 8 percent slopes—5 percent
Chubard very gravelly sandy loam, 8 to 30 percent slopes—5 percent

Component Description

Chubard and similar soils

Landform: Hills
Slope: 15 to 50 percent
Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description**Richinde and similar soils**

Landform: Hills, southwest to southeast aspects

Slope: 4 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY010NV—Loamy slope 8-10 P.Z.

Component Description**Rock outcrop**

Landform: Hills

Slope: 15 to 75 percent

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

Contrasting Inclusions

Ravendog and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Chubard and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Hills

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Ecological site: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2298—Chubard-Richinde association, steep

Map Unit Setting

MLRA: 29

Landscape: Hills

Elevation: 5,100 to 7,950

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very gravelly sandy loam, 4 to 30 percent slopes—45 percent

Richinde very gravelly sandy loam, 15 to 50 percent slopes—25 percent

Chubard very gravelly sandy loam, 50 to 75 percent slopes—15 percent

Rock outcrop, 30 to 75 percent slopes—6 percent

Chubard very gravelly fine sandy loam, 8 to 30 percent slopes—5 percent

Nuhelen very stony loam, 15 to 50 percent slopes—2 percent

Sevenmile ashy sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Chubard and similar soils

Landform: Hills

Slope: 4 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 10-14 P.Z.

Component Description**Richinde and similar soils**

Landform: Hills, southwest to southeast aspect

Slope: 15 to 50 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy clay loam

Layer 3—18 to 22 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: Lithic bedrock: 10 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: R029XY010NV—Loamy slope 8-10 P.Z.

Component Description**Chubard and similar soils**

Landform: Hills

Slope: 50 to 75 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, fourwing saltbush, ephedra, Stansbury cliffrose, other shrubs, other trees

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

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

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY081NV—Shallow calcareous hill 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 6 percent

Slope: 30 to 75 percent

Landform: Hills

Chubard and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Nuhelen and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Hills, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Sevenmile and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

2299—Chubard-Rock outcrop association, cool

Map Unit Setting

MLRA: 28A

Landscape: Hills

Elevation: 6,000 to 7,000

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very stony sandy loam, 4 to 30 percent slopes—60 percent

Rock outcrop, 15 to 50 percent slopes—25 percent

Richinde very gravelly sandy loam, 4 to 30 percent slopes—9 percent

Lomoiné very gravelly sandy loam, 8 to 30 percent slopes—4 percent

Armespan gravelly sandy loam, 2 to 15 percent slopes—2 percent

Component Description

Chubard and similar soils

Landform: Hills

Slope: 4 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very stony sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Rock outcrop

Landform: Hills

Slope: 15 to 50 percent

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

Contrasting Inclusions

Richinde and similar soils

Composition: 0 to 9 percent

Slope: 4 to 30 percent

Landform: Hills, southwest to southeast aspects

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028AY017NV—Shallow loam 8-10 P.Z.

Lomoine and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Armespan and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2301—Stewval-Gabbvally association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 4,900 to 7,700

Precipitation: 8 to 12 inches

Air temperature: 50 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Stewval very gravelly fine sandy loam, 8 to 50 percent slopes—55 percent
 Gabbvally very stony loam, 30 to 50 percent slopes—30 percent
 Cath gravelly loam, 2 to 15 percent slopes—6 percent
 Lomoiné very gravelly sandy loam, 8 to 75 percent slopes—4 percent
 Rock outcrop, 30 to 75 percent slopes—3 percent
 Riverwash extremely gravelly coarse sand, 2 to 4 percent slopes—2 percent

Component Description

Stewval and similar soils

Landform: Mountains

Slope: 8 to 50 percent

Parent material: Colluvium derived from volcanic rock with minor amounts of volcanic ash over residuum weathered from volcanic rock

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

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

Layer 2—1 to 4 inches; extremely gravelly loam

Layer 3—4 to 8 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: Lithic bedrock: 4 to 14 inches

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

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Gabbvally and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock with minor amounts of volcanic ash over residuum weathered from volcanic rock

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very stony loam

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

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 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: R029XY010NV—Loamy slope 8-10 P.Z.

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

Contrasting Inclusions

Cath and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 15 percent
 Landform: Inset fans
 Typical vegetation: Fourwing saltbush, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, Stansbury cliffrose, other shrubs
 Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Lomoiné and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 75 percent
 Landform: Rock pediments
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 75 percent
 Landform: Mountains

Riverwash

Composition: 0 to 2 percent
 Slope: 2 to 4 percent
 Landform: Drainageways

Management

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

2302—Chubard-Nuhelen-Rock outcrop association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 5,900 to 7,750
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Chubard very gravelly fine sandy loam, 8 to 30 percent slopes—40 percent
 Nuhelen very stony loam, 30 to 50 percent slopes—35 percent
 Rock outcrop, 15 to 50 percent slopes—10 percent
 Gabbvally very stony loam, 30 to 50 percent slopes—5 percent
 Nuhelen very stony loam, 50 to 75 percent slopes—5 percent
 Wrango gravelly loamy sand, 2 to 8 percent slopes—5 percent

Component Description

Chubard and similar soils

Landform: Backslopes and summits of mountains

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Nuhelen and similar soils

Landform: Mountains, northeast to north aspects

Slope: 30 to 50 percent

Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 6 percent stones

Layer 1—0 to 4 inches; very stony loam

Layer 2—4 to 6 inches; very gravelly sandy loam
 Layer 3—6 to 13 inches; very cobbly sandy clay loam
 Layer 4—13 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: Lithic bedrock: 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
 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: F028AY074NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 15 to 50 percent

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

Contrasting Inclusions

Gabbvally and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs
 Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Nuhelen and similar soils

Composition: 0 to 5 percent
 Slope: 50 to 75 percent
 Landform: Mountains, northeast to north aspects
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
 Ecological site: F029XY069NV

Wrango and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs
 Ecological site: R029XY009NV—Upland wash

Management

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

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

2304—Chubard-Rock outcrop association, warm

Map Unit Setting

MLRA: 29
 Landscape: Mountains
 Elevation: 5,100 to 6,650
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Chubard very gravelly fine sandy loam, warm, 2 to 30 percent slopes—70 percent
 Rock outcrop, 15 to 50 percent slopes—15 percent
 Downeyville very cobbly fine sandy loam, 15 to 50 percent slopes—5 percent
 Gabbvally very stony loam, 30 to 50 percent slopes—4 percent
 Nuhelen gravelly sandy loam, 30 to 50 percent slopes—4 percent
 Wrango gravelly loamy sand, 2 to 8 percent slopes—2 percent

Component Description

Chubard and similar soils

Landform: Backslopes and summits of mountains
 Slope: 2 to 30 percent
 Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones
 Layer 1—0 to 4 inches; very gravelly fine sandy loam
 Layer 2—4 to 7 inches; extremely gravelly sandy clay loam
 Layer 3—7 to 10 inches; extremely gravelly clay loam
 Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Slope: 15 to 50 percent

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

Contrasting Inclusions

Downeyville and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Rock pediments

Typical vegetation: Indian ricegrass, desert needlegrass, galleta, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, Nevada ephedra, winterfat, Bailey greasewood, other shrubs

Ecological site: R029XY022NV—Loamy slope 5-8 P.Z.

Gabbvally and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs

Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Nuhelen and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Mountains, north facing aspects

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Wrango and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

2305—Chubard-Littleailie-Devildog association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,800 to 6,700

Precipitation: 8 to 12 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Chubard very gravelly fine sandy loam, 4 to 15 percent slopes—50 percent
 Littleailie gravelly sandy loam, 2 to 8 percent slopes—25 percent
 Devil dog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—15 percent
 Chubard very gravelly fine sandy loam, 15 to 50 percent slopes—7 percent
 Sevenmile ashy sandy loam, 2 to 8 percent slopes—3 percent

Component Description

Chubard and similar soils

Landform: Rock pediments

Slope: 4 to 15 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; extremely gravelly sandy clay loam

Layer 3—7 to 10 inches; extremely gravelly clay loam

Layer 4—10 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: Lithic bedrock: 6 to 14 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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Littleailie and similar soils

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with a minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 8 inches; gravelly sandy loam

Layer 3—8 to 19 inches; very gravelly sandy loam

Layer 4—19 to 41 inches; cemented material

Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Devildog and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy coarse sandy loam

Layer 4—38 to 60 inches; 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 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Chubard and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of rock pediments

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Sevenmile and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

2311—Cliffdown gravelly sandy loam, 2 to 15 percent slopes, eroded***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,950 to 5,400

Precipitation: 6 to 8 inches

Air temperature: 52 to 54 degrees Fahrenheit

Frost-free period: 130 to 150 days

Composition

Cliffdown gravelly sandy loam, 2 to 15 percent slopes—90 percent

Nyala sandy loam, 2 to 4 percent slopes—5 percent

Fang fine sandy loam, 2 to 8 percent slopes—3 percent

Ursine very gravelly loam, warm, 2 to 8 percent slopes—2 percent

Component Description**Cliffdown and similar soils**

Landform: Fan skirts

Slope: 2 to 15 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, other perennial grasses, sand dropseed, other perennial forbs, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 3 percent fine gravel, 20 percent gravel, 2 percent cobbles

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 54 inches; stratified gravelly sandy loam to very gravelly 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY012NV—Sandy 5-8 P.Z.

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

Contrasting Inclusions

Nyala and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Fang and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Ursine and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2312—Fang-Nyala association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,950 to 5,300

Precipitation: 5 to 8 inches

Air temperature: 50 to 57 degrees Fahrenheit

Frost-free period: 120 to 170 days

Composition

Fang fine sandy loam, 2 to 8 percent slopes—45 percent

Nyala sandy loam, 2 to 8 percent slopes—40 percent

Cliffdown gravelly sandy loam, 2 to 8 percent slopes—6 percent

Silent gravelly sandy loam, 2 to 4 percent slopes—5 percent

Koyen gravelly fine sandy loam, droughty, 2 to 8 percent slopes—3 percent

Ursine very gravelly loam, warm, 2 to 8 percent slopes—1 percent

Component Description

Fang and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone, basalt, welded tuff, and a component of volcanic ash

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; fine sandy loam

Layer 2—3 to 39 inches; fine sandy loam

Layer 3—39 to 64 inches; stratified very gravelly sand to 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 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 7c

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Component Description

Nyala and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; sandy loam

Layer 2—12 to 22 inches; sandy clay loam

Layer 3—22 to 42 inches; sandy loam

Layer 4—42 to 60 inches; 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: Moderately slow)

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

Nonirrigated land capability: 7s

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

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

Contrasting Inclusions**Cliffdown and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other perennial grasses, sand dropseed, other perennial forbs, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY012NV—Sandy 5-8 P.Z.

Silent and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Koyen and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Ursine and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

2320—Blackcan association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,050 to 5,550

Precipitation: 8 to 10 inches

Air temperature: 50 to 53 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Blackcan very gravelly sandy loam, 2 to 15 percent slopes—70 percent
 Blackcan very gravelly sandy loam, dry, 8 to 15 percent slopes—20 percent
 Geer fine sandy loam, 0 to 2 percent slopes—3 percent
 Veet very gravelly sandy loam, 2 to 8 percent slopes—2 percent
 Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—2 percent
 Stewval very stony fine sandy loam, 8 to 30 percent slopes—2 percent
 Ursine gravelly loam, 8 to 15 percent slopes—1 percent

Component Description

Blackcan and similar soils

Landform: Summits of ballenas

Slope: 2 to 15 percent

Parent material: Alluvium derived from welded tuff, basalt, and volcanic rock

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 10 percent cobbles, 50 percent gravel

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

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 14 inches; very gravelly sandy loam

Layer 4—14 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): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Blackcan and similar soils

Landform: Backslopes of ballenas

Slope: 8 to 15 percent

Parent material: Alluvium derived from welded tuff, basalt and volcanic rock

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 10 percent cobbles, 50 percent gravel

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

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 14 inches; very gravelly sandy loam

Layer 4—14 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): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

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

Contrasting Inclusions

Geer and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Veet and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Riverwash

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Drainageways

Stewval and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Hills

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Ursine and similar soils

Composition: 0 to 1 percent

Slope: 8 to 15 percent

Landform: Ballenas

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

3010—Anaud-Cagas-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,100 to 8,450

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Anaud very cobbly loam, 8 to 30 percent slopes—40 percent

Cagas extremely cobbly ashy sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop, 30 to 75 percent slopes—20 percent

Starflyer very cobbly ashy coarse sandy loam, 15 to 50 percent slopes—9 percent

Nuhelen gravelly sandy loam, 8 to 50 percent slopes—5 percent

Wrango gravelly loamy sand, 2 to 8 percent slopes—1 percent

Component Description

Anaud and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very cobbly loam

Layer 2—10 to 16 inches; very cobbly clay loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 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: R028AY036NV—Shallow clay loam 12-14 P.Z.

Component Description**Cagas and similar soils**

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from andesite and welded tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, singleleaf pinyon

Site index: Singleleaf pinyon—20 at an age base of 100 years

Typical profile:

Layer 1—0 to 5 inches; extremely cobbly ashy sandy loam

Layer 2—5 to 12 inches; extremely cobbly ashy sandy loam

Layer 3—12 to 19 inches; extremely cobbly ashy sandy clay loam

Layer 4—19 to 27 inches; extremely cobbly ashy sandy loam

Layer 5—27 to 37 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: Paralithic bedrock: 20 to 40 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: F028AY076NV

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions**Starflyer and similar soils**

Composition: 0 to 9 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Nuhelen and similar soils

Composition: 0 to 5 percent

Slope: 8 to 50 percent

Landform: Mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F028AY074NV

Wrango and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3036—Kyler-Amtoft, thin surface-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,350 to 6,700

Precipitation: 8 to 12 inches

Air temperature: 48 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Kyler extremely cobbly loam, cool, 15 to 50 percent slopes—45 percent

Amtoft very gravelly loam, dry, 15 to 50 percent slopes—25 percent

Rock outcrop, 15 to 50 percent slopes—15 percent

Eaglepass extremely stony loam, 15 to 50 percent slopes—6 percent

Logring extremely gravelly loam, 15 to 50 percent slopes—5 percent

Medburn silt loam, 2 to 4 percent slopes—4 percent

Component Description

Kyler and similar soils

Landform: Mountains, south aspect

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, black sagebrush, shadscale, winterfat, other shrubs, other perennial forbs

Typical profile:

Surface rock fragments: About 35 percent gravel, 20 percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description**Amtoft and similar soils**

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Residuum weathered from limestone, sandstone, and shale

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

Component Description**Rock outcrop**

Landform: Mountains

Slope: 15 to 50 percent

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

Contrasting Inclusions**Eaglepass and similar soils**

Composition: 0 to 6 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs
 Ecological site: R028AY029NV—Limestone hill

Logring and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Medburn and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3170—Linoyer-Escalante association

Map Unit Setting

MLRA: 28B

Landscape: Bolson

Elevation: 5,950 to 6,100

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Linoyer silt loam, cool, 2 to 4 percent slopes—60 percent

Escalante gravelly sandy loam, 2 to 4 percent slopes—25 percent

Zimbob very gravelly loam, 8 to 15 percent slopes—6 percent

Gremmers very gravelly sandy loam, 2 to 4 percent slopes—5 percent

Tulase silt loam, 2 to 4 percent slopes—4 percent

Component Description

Linoyer and similar soils

Landform: Basin floors

Slope: 2 to 4 percent

Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, globemallow, other perennial forbs, winterfat, bud sagebrush, fourwing saltbush, other shrubs

Typical profile:

Layer 1—0 to 10 inches; silt loam

Layer 2—10 to 60 inches; 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 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 6e

Ecological site: R028BY013NV—Silty 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Fan skirts

Slope: 2 to 4 percent

Parent material: Alluvium derived from rhyolite and minor amounts of limestone

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 27 inches; gravelly sandy loam

Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 7s

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Zimbob and similar soils

Composition: 0 to 6 percent

Slope: 8 to 15 percent

Landform: Upper fan remnants

Typical vegetation: Other perennial forbs, Scribner needlegrass, bluebunch wheatgrass, Sandberg bluegrass, Indian ricegrass, bottlebrush squirreltail, other perennial grasses, black sagebrush, other shrubs, Utah juniper

Ecological site: R028BY059NV—Shallow calcareous hill 10-14 P.Z.

Gremmers and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Tulase and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, thickspike wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3190—Penoyer-Geer association**Map Unit Setting**

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,650 to 5,800

Precipitation: 6 to 8 inches

Air temperature: 52 to 55 degrees Fahrenheit

Frost-free period: 130 to 170 days

Composition

Penoyer silt loam, 0 to 2 percent slopes—45 percent

Geer fine sandy loam, 0 to 4 percent slopes—40 percent

Cirac gravelly sandy loam, 0 to 4 percent slopes—8 percent

Easychair silt loam, 0 to 2 percent slopes—4 percent

Annabella sandy loam, 0 to 4 percent slopes—3 percent

Component Description**Penoyer and similar soils**

Landform: Inset fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; silt loam

Layer 2—8 to 60 inches; 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 12 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c

Nonirrigated land capability: 7c

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Component Description**Geer and similar soils**

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam

Layer 2—12 to 65 inches; stratified fine sandy loam to 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 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c

Nonirrigated land capability: 7c

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions**Cirac and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, black greasewood, other shrubs

Ecological site: R028AY024NV—Sodic terrace 5-8 P.Z.

Easychair and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY048NV—Outwash plain

Annabella and similar soils

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3192—Saltydog-Ambush-Panacker association

Map Unit Setting

MLRA: 29

Landscape: Bolson

Elevation: 4,550 to 4,650

Precipitation: 5 to 7 inches

Air temperature: 53 to 57 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Saltydog loam, 0 to 2 percent slopes—40 percent

Ambush fine sandy loam, 0 to 2 percent slopes—30 percent

Panacker fine sandy loam, 2 to 4 percent slopes—20 percent

Koyen loamy sand, 2 to 4 percent slopes—3 percent

Geer fine sandy loam, 0 to 2 percent slopes—3 percent

Playas silty clay loam, 0 to 2 percent slopes—2 percent

Patter gravelly sandy loam, 2 to 4 percent slopes—1 percent

Penoyer very fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Saltydog and similar soils

Landform: Lower alluvial flats

Slope: 0 to 2 percent

Parent material: Alluvium and lacustrine deposits derived from limestone and welded tuff

Typical vegetation: Indian ricegrass, galleta, other perennial grasses, bud sagebrush, shadscale, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 4 inches; loam

Layer 2—4 to 17 inches; clay loam

Layer 3—17 to 46 inches; clay loam, loam

Layer 4—46 to 65 inches; gravelly sand, gravelly loamy sand, 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 9 inches

Present flooding: Rare

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY120NV—Saline terrace

Component Description

Ambush and similar soils

Landform: Middle alluvial flats

Slope: 0 to 2 percent

Parent material: Eolian deposits over lacustrine deposits derived from limestone and/or welded tuff

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Typical profile:

Layer 1—0 to 5 inches; fine sandy loam

Layer 2—5 to 14 inches; very gravelly sandy loam

Layer 3—14 to 61 inches; 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): Moderately High, (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: 6c

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Component Description

Panacker and similar soils

Landform: Upper alluvial flats

Slope: 2 to 4 percent

Parent material: Eolian deposits and alluvium derived from mixed sources over lacustrine deposits derived from mixed sources

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 5 inches; fine sandy loam

Layer 2—45 to 13 inches; fine sandy loam

Layer 3—13 to 39 inches; sandy clay loam

Layer 4—39 to 73 inches; 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)

Sodicity: Sodic within 40 inches.

Available water capacity: About 9 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

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

Contrasting Inclusions**Koyen and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Basin floors

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Geer and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Playas

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Basin floors

Patter and similar soils

Composition: 0 to 1 percent

Slope: 2 to 4 percent

Landform: Flood plains

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Penoyer and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Management

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

"Range" section

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

3193—Ewelac-Playas association

Map Unit Setting

MLRA: 29
 Landscape: Bolson
 Elevation: 4,550 to 4,600
 Precipitation: 6 to 8 inches
 Air temperature: 46 to 49 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Ewelac silt loam, 0 to 2 percent slopes—50 percent
 Playas silty clay loam, 0 to 20 percent slopes—40 percent
 Panacker fine sandy loam, 2 to 4 percent slopes—5 percent
 Ambush fine sandy loam, 0 to 2 percent slopes—3 percent
 Saltydog loam, 0 to 2 percent slopes—2 percent

Component Description

Ewelac and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits derived from mixed rock sources
 Typical vegetation: Inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, saltbush, black greasewood, other shrubs, seepweed

Typical profile:

Layer 1—0 to 3 inches; silt loam
 Layer 2—3 to 10 inches; silty clay loam
 Layer 3—10 to 35 inches; silty clay
 Layer 4—35 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): Moderately Low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY076NV—Sodic flat

Component Description

Playas

Landform: Basin floors
Slope: 0 to 20 percent

Component Properties and Qualities

Runoff: Negligible
Salinity: Saline within 40 inches
Present ponding: Frequent
Water table: Present

Interpretive Groups

Nonirrigated land capability: 8w

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

Contrasting Inclusions

Panacker and similar soils

Composition: 0 to 5 percent
Slope: 2 to 4 percent
Landform: Upper alluvial flats
Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Ambush and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Middle alluvial flats
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs
Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Saltydog and similar soils

Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Lower alluvial flats
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs
Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

Management

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

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

3194—Ambush-Panacker-Playas association

Map Unit Setting

MLRA: 29
Landscape: Bolson
Elevation: 4,550 to 4,650
Precipitation: 5 to 7 inches
Air temperature: 53 to 57 degrees Fahrenheit

Frost-free period: 120 to 160 days

Composition

Ambush fine sandy loam, 0 to 2 percent slopes—45 percent
 Panacker fine sandy loam, 2 to 4 percent slopes—30 percent
 Playas silty clay loam, 0 to 2 percent slopes—15 percent
 Koyen loamy sand, 2 to 4 percent slopes—5 percent
 Penoyer very fine sandy loam, 0 to 4 percent slopes—3 percent
 Slaw silt loam, 0 to 2 percent slopes—2 percent

Component Description

Ambush and similar soils

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Eolian deposits over lacustrine deposits derived from limestone and/or welded tuff

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Typical profile:

Layer 1—0 to 5 inches; fine sandy loam

Layer 2—5 to 14 inches; very gravelly sandy loam

Layer 3—14 to 61 inches; 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): Moderately High, (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: 6c

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Component Description

Panacker and similar soils

Landform: Alluvial flats

Slope: 2 to 4 percent

Parent material: Eolian deposits and alluvium derived from mixed sources over lacustrine lacustrine deposits derived from mixed sources

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 5 inches; fine sandy loam

Layer 2—5 to 13 inches; fine sandy loam

Layer 3—13 to 39 inches; sandy clay loam

Layer 4—39 to 73 inches; 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)
 Sodicity: Sodic within 40 inches
 Available water capacity: About 9 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Component Description

Playas

Landform: Basin floors
 Slope: 0 to 2 percent

Component Properties and Qualities

Runoff: Negligible
 Salinity: Saline within 40 inches
 Present ponding: Frequent
 Water table: Present

Interpretive Groups

Nonirrigated land capability: 8w

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

Contrasting Inclusions

Koyen and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 4 percent
 Landform: Basin floor remnants
 Typical vegetation: Bottlebrush squirreltail, Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, shadscale, black greasewood, other shrubs
 Ecological site: R029XY024NV—Sodic terrace 5-8 P.Z.

Penoyer and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 4 percent
 Landform: Alluvial flats
 Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs
 Ecological site: R029XY020NV—Silty 5-8 P.Z.

Slaw and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Alluvial flats
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs
 Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Management

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

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

3196—Saltydog-Geer association

Map Unit Setting

MLRA: 29
 Landscape: Bolson
 Elevation: 4,600 to 4,750
 Precipitation: 5 to 8 inches
 Air temperature: 52 to 57 degrees Fahrenheit
 Frost-free period: 120 to 170 days

Composition

Saltydog loam, 0 to 2 percent slopes—60 percent
 Geer fine sandy loam, 0 to 2 percent slopes—30 percent
 Ambush fine sandy loam, 0 to 2 percent slopes—4 percent
 Panacker fine sandy loam, 0 to 2 percent slopes—4 percent
 Patter gravelly sandy loam, 2 to 4 percent slopes—2 percent

Component Description

Saltydog and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Alluvium and lacustrine deposits derived from limestone and welded tuff
 Typical vegetation: Indian ricegrass, galleta, other perennial grasses, bud sagebrush, shadscale, greenmolly kochia, other shrubs

Typical profile:

Layer 1—0 to 4 inches; loam
 Layer 2—4 to 17 inches; clay loam
 Layer 3—17 to 46 inches; clay loam, loam
 Layer 4—46 to 65 inches; gravelly sand, gravelly loamy sand, 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 9 inches
 Present flooding: Rare
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY120NV—Saline terrace

Component Description

Geer and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from welded tuff and limestone with a minor component of volcanic ash
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 12 inches; fine sandy loam

Layer 2—12 to 65 inches; 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): Moderately High, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions**Ambush and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Panacker and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Patter and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3198—Ambush-Penoyer association***Map Unit Setting***

MLRA: 29

Landscape: Bolson
 Elevation: 4,600 to 4,850
 Precipitation: 5 to 8 inches
 Air temperature: 52 to 57 degrees Fahrenheit
 Frost-free period: 120 to 170 days

Composition

Ambush fine sandy loam, 0 to 2 percent slopes—50 percent
 Penoyer very fine sandy loam, 0 to 2 percent slopes—40 percent
 Panacker fine sandy loam, 0 to 2 percent slopes—4 percent
 Patter gravelly sandy loam, 2 to 4 percent slopes—3 percent
 Saltydog loam, 0 to 2 percent slopes—3 percent

Component Description

Ambush and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Eolian deposits over lacustrine deposits derived from limestone and/or welded tuff
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, other shrubs

Typical profile:

Layer 1—0 to 5 inches; fine sandy loam
 Layer 2—5 to 14 inches; very gravelly sandy loam
 Layer 3—14 to 61 inches; 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): Moderately High, (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: 6c
 Ecological site: R029XY059NV—Shallow silty 5-8 P.Z.

Component Description

Penoyer and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits
 Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 8 inches; very fine sandy loam
 Layer 2—8 to 60 inches; 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 12 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 1

Nonirrigated land capability: 7c

Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions

Panacker and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Patter and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Saltydog and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lower alluvial flats

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs

Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3221—Rouette-Ursine-Escalante association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,900 to 6,100

Precipitation: 8 to 10 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Rouette loam, 2 to 8 percent slopes—30 percent
 Ursine gravelly loam, 2 to 8 percent slopes—30 percent
 Escalante gravelly sandy loam, 2 to 4 percent slopes—25 percent
 Armespan gravelly sandy loam, 4 to 15 percent slopes—5 percent
 Linoyer very fine sandy loam, 2 to 8 percent slopes—5 percent
 Medburn silt loam, 2 to 4 percent slopes—5 percent

Component Description**Rouette and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:

Layer 1—0 to 6 inches; loam

Layer 2—6 to 17 inches; gravelly loam

Layer 3—17 to 23 inches; cemented material

Layer 4—23 to 60 inches; very gravelly sand

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 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: R028AY015NV—Loamy 8-10 P.Z.

Component Description**Ursine and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone with a minor component of quartzite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 18 inches; very gravelly sandy loam

Layer 4—18 to 70 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description**Escalante and similar soils**

Landform: Inset fans

Slope: 2 to 4 percent

Parent material: Alluvium derived from rhyolite and some limestone

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 27 inches; gravelly sandy loam

Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions**Armespan and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs
 Ecological site: R028AY030NV—Silty 8-10 P.Z.

Medburn and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3290—Kunzler-Sycomat association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,550 to 5,650

Precipitation: 6 to 10 inches

Air temperature: 48 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Kunzler gravelly sandy loam, 2 to 4 percent slopes—55 percent

Sycomat gravelly loam, 2 to 4 percent slopes—30 percent

Pyrat gravelly sandy loam, 0 to 4 percent slopes—5 percent

Hessing silt loam, 0 to 2 percent slopes—4 percent

Benin silt loam, 0 to 4 percent slopes—2 percent

Benin silt loam, sodic, 0 to 4 percent slopes—1 percent

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

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

Calcic Petrocalcids gravelly loam, 0 to 2 percent slopes—1 percent

Component Description

Kunzler and similar soils

Landform: Upper fan skirts

Slope: 2 to 4 percent

Parent material: Alluvium derived from limestone and sandstone

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, black greasewood, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 11 inches; loam

Layer 3—11 to 41 inches; sandy loam

Layer 4—41 to 60 inches; 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 7 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R028BY028NV—Sodic terrace 8-10 P.Z.

Component Description

Sycomat and similar soils

Landform: Lower fan skirts

Slope: 2 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 21 inches; gravelly loam

Layer 3—21 to 48 inches; sandy loam

Layer 4—48 to 60 inches; very 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: Moderate)

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: R028BY074NV—Sodic terrace 5-8 P.Z.

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

Contrasting Inclusions

Pyrat and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Hessing and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, other perennial grasses, bottlebrush squirreltail, other perennial forbs, bud sagebrush, shadscale, other shrubs

Ecological site: R028BY017NV—Loamy 5-8 P.Z.

Benin and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Basin floor remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Ecological site: R028BY074NV—Sodic terrace 5-8 P.Z.

Benin and similar soils

Composition: 0 to 1 percent

Slope: 0 to 4 percent

Landform: Basin floor remnants

Typical vegetation: Inland saltgrass, basin wildrye, black greasewood, other shrubs

Ecological site: R028BY069NV—Sodic flat 8-10 P.Z.

Duffer and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Seep areas of Basin floor remnants

Typical vegetation: Sedge, inland saltgrass, Baltic rush, bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, other perennial forbs, other shrubs

Ecological site: R028BY002NV—Saline meadow

Kolda and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Seep and spring areas of Basin floor remnants

Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

Calcic Petrocalcids and similar soils

Composition: 0 to 1 percent

Classification: Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs

Ecological site: R029XY092NV—Barren fan 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

3409—Devildog-Qwynn-Lojet association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,300 to 6,200

Precipitation: 8 to 10 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 100 to 150 days

Composition

Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—40 percent

Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—30 percent

Lojet coarse sandy loam, 2 to 8 percent slopes—20 percent

Gardenvalley gravelly fine sandy loam, 0 to 4 percent slopes—5 percent

Littleailie gravelly sandy loam, 2 to 8 percent slopes—5 percent

Component Description**Devildog and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; gravelly sandy 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description**Qwynn and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 15 percent gravel

Layer 1—0 to 3 inches; gravelly coarse sandy loam

Layer 2—3 to 28 inches; gravelly sandy loam

Layer 3—28 to 52 inches; gravelly sandy clay loam

Layer 4—52 to 70 inches; very gravelly coarse 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 6 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Lojet and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent fine gravel, 10 percent gravel

Layer 1—0 to 4 inches; ashy coarse sandy loam

Layer 2—4 to 11 inches; ashy sandy clay loam

Layer 3—11 to 35 inches; gravelly ashy sandy clay loam

Layer 4—35 to 41 inches; cemented material

Layer 5—41 to 60 inches; very gravelly ashy coarse sandy loam

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: Duripan: 20 to 39 inches

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

Available water capacity: About 5 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Gardenvalley and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Littleailie and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

3411—Watoopah-Cath association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,950 to 6,400

Precipitation: 8 to 11 inches

Air temperature: 47 to 53 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Watoopah gravelly loamy sand, 2 to 8 percent slopes—50 percent

Cath gravelly loam, warm, 0 to 4 percent slopes—40 percent

Veet very gravelly sandy loam, 2 to 8 percent slopes—6 percent

Geer fine sandy loam, 0 to 4 percent slopes—3 percent

Koyen fine sandy loam, 2 to 8 percent slopes—1 percent

Component Description

Watoopah and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic ash, welded tuff, and rhyolite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loamy sand

Layer 2—2 to 12 inches; sandy loam

Layer 3—12 to 18 inches; gravelly sandy loam

Layer 4—18 to 60 inches; stratified very gravelly coarse sand to coarse 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: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Cath and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 6 inches; gravelly loam

Layer 2—6 to 20 inches; clay loam

Layer 3—20 to 28 inches; very gravelly sandy clay loam

Layer 4—28 to 60 inches; stratified very gravelly loamy 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: 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

Nonirrigated land capability: 6c

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Geer and similar soils

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Koyen and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3412—Watoopah-Devildog-Littleailie association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,850 to 7,250

Precipitation: 8 to 10 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 100 to 150 days

Composition

Watoopah gravelly loamy sand, 2 to 8 percent slopes—45 percent

Devildog very gravelly ashy coarse sandy loam, 0 to 2 percent slopes—30 percent

Littleailie gravelly sandy loam, 2 to 8 percent slopes—15 percent

Watoopah gravelly loamy sand, cool, 2 to 8 percent slopes—8 percent

Stewval very gravelly fine sandy loam, 8 to 30 percent slopes—2 percent

Component Description

Watoopah and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic ash, welded tuff, and rhyolite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly loamy sand

Layer 2—2 to 12 inches; sandy loam

Layer 3—12 to 18 inches; gravelly sandy loam

Layer 4—18 to 60 inches; stratified very gravelly coarse sand to coarse 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: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Devildog and similar soils

Landform: Upper inset fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff with additions of volcanic ash

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam

Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam

Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam

Layer 4—38 to 60 inches; gravelly sandy 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: Moderate)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Littleailie and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with a minor amounts of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam
 Layer 2—3 to 8 inches; gravelly sandy loam
 Layer 3—8 to 19 inches; very gravelly sandy loam
 Layer 4—19 to 41 inches; cemented material
 Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Watoopah and similar soils

Composition: 0 to 8 percent
 Slope: 2 to 8 percent
 Landform: Inset fans
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush
 Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Stewval and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Mountains
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

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

3416—Watoopah gravelly loamy sand, 0 to 8 percent slopes

Map Unit Setting

MLRA: 29
 Landscape: Fan piedmont
 Elevation: 4,800 to 5,150
 Precipitation: 8 to 10 inches

Air temperature: 48 to 52 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Watoopah gravelly loamy sand, 0 to 8 percent slopes—90 percent
 Veet very gravelly sandy loam, 2 to 4 percent slopes—5 percent
 Littleailie gravelly sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Watoopah and similar soils

Landform: Fan remnants

Slope: 0 to 8 percent

Parent material: Alluvium derived from volcanic ash, welded tuff, and rhyolite

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly loamy sand

Layer 2—4 to 14 inches; sandy loam

Layer 3—14 to 40 inches; gravelly loamy sand

Layer 4—40 to 60 inches; stratified very gravelly coarse sand to coarse 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 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Littleailie and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

3434—Lodar-Amtoft-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,650 to 7,000

Precipitation: 12 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Lodar very gravelly loam, 15 to 50 percent slopes—50 percent

Amtoft very gravelly loam, 15 to 50 percent slopes—20 percent

Rock outcrop, 15 to 50 percent slopes—15 percent

Badhap very gravelly loam, 15 to 50 percent slopes—5 percent

Eaglepass extremely stony loam, 15 to 50 percent slopes—4 percent

Haunchee very stony loam, 15 to 50 percent slopes—3 percent

Monarch very cobbly sandy loam, 15 to 50 percent slopes—3 percent

Component Description

Lodar and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 10 inches; very gravelly sandy loam

Layer 3—10 to 19 inches; extremely gravelly loam

Layer 4—19 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: F028AY074NV

Component Description

Amtoft and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Residuum and colluvium weathered from limestone

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose

Typical profile:

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY034NV—Shallow calcareous slope 10-14 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Slope: 15 to 50 percent

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

Contrasting Inclusions

Badhap and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Letterman needlegrass, nodding brome, mountain brome, slender wheatgrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, snowberry

Ecological site: R028AY068NV—Loamy slope 16+ P.Z.

Eaglepass and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R028AY029NV—Limestone hill

Haunchee and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Ecological site: R028AY059NV—Mahogany savanna

Monarch and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Ecological site: F028AY077NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3462—Littleailie-Devildog association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,300 to 5,700

Precipitation: 8 to 12 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Littleailie gravelly sandy loam, 2 to 8 percent slopes—60 percent

Devildog very gravelly ashy coarse sandy loam, 0 to 4 percent slopes—25 percent

Littleailie gravelly sandy loam, 8 to 15 percent slopes—5 percent

Devildog very gravelly ashy coarse sandy loam, drainageways, 0 to 4 percent slopes—5 percent

Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Littleailie and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with a minor amount of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam
 Layer 2—3 to 8 inches; gravelly sandy loam
 Layer 3—8 to 19 inches; very gravelly sandy loam
 Layer 4—19 to 41 inches; cemented material
 Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description

Devildog and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff with additions of volcanic ash
 Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 15 percent gravel
 Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam
 Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam
 Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam
 Layer 4—38 to 60 inches; gravelly sandy 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: Moderate)
 Available water capacity: About 5 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Littleailie and similar soils

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Devildog and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Qwynn and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Lower fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

3466—Littleailie association

Map Unit Setting

MLRA: 29

Landscape: Fan piedmont

Elevation: 5,850 to 6,800

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Littleailie gravelly sandy loam, 4 to 15 percent slopes—55 percent

Littleailie gravelly sandy loam, 15 to 30 percent slopes—30 percent

Littleailie gravelly sandy loam, 2 to 8 percent slopes—5 percent

Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

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

Component Description

Littleailie and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff with a minor amount of volcanic ash and alluvium derived from limestone

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel
 Layer 1—0 to 3 inches; gravelly sandy loam
 Layer 2—3 to 8 inches; gravelly sandy loam
 Layer 3—8 to 19 inches; very gravelly sandy loam
 Layer 4—19 to 41 inches; cemented material
 Layer 5—41 to 62 inches; extremely gravelly loamy sand

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: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Component Description**Littleailie and similar soils**

Landform: Ballenas
 Slope: 15 to 30 percent
 Parent material: Alluvium derived from welded tuff with a minor component of limestone
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 20 percent gravel
 Layer 1—0 to 3 inches; gravelly ashy sandy loam
 Layer 2—3 to 8 inches; gravelly ashy sandy loam
 Layer 3—8 to 19 inches; very gravelly ashy sandy loam
 Layer 4—19 to 41 inches; cemented material
 Layer 5—41 to 62 inches; extremely gravelly ashy loamy sand

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: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

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

Contrasting Inclusions

Littleailie and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Ballenas

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Qwynn and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Devildog and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

3580—Kyler-Rock outcrop complex, 15 to 50 percent slopes

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 4,450 to 7,400

Precipitation: 11 to 13 inches

Air temperature: 52 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Kyler very gravelly very fine sandy loam, 15 to 50 percent slopes—75 percent

Rock outcrop, 30 to 50 percent slopes—15 percent

Eaglepass extremely stony loam, 15 to 50 percent slopes—8 percent

Logring very cobbly fine sandy loam, 15 to 50 percent slopes—2 percent

Component Description

Kyler and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 31 percent gravel, 2 percent fine gravel, 16 percent cobbles, 2 percent stones

Layer 1—0 to 3 inches; very gravelly very fine sandy loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 50 percent

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

Contrasting Inclusions**Eaglepass and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: Upper mountains

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R029XY040NV—Limestone hill

Logring and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F029XY069NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3610—Threedogs-Slaw association***Map Unit Setting***

MLRA: 28A

Landscape: Bolson

Elevation: 5,450 to 5,600

Precipitation: 5 to 8 inches

Air temperature: 50 to 57 degrees Fahrenheit

Frost-free period: 110 to 130 days

Composition

Threedogs loam, 0 to 2 percent slopes—65 percent

Slaw silt loam, moist, 0 to 2 percent slopes—20 percent

Katelana silt loam, 0 to 2 percent slopes—6 percent

Kunzler loam, 2 to 4 percent slopes—5 percent

Bigspring gravelly sandy loam, 2 to 4 percent slopes—4 percent

Component Description**Threedogs and similar soils**

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rock source sources

Typical vegetation: Basin wildrye, other perennial grasses, alkali sacaton, other perennial forbs, fourwing saltbush, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 4 inches; loam

Layer 2—4 to 12 inches; loam

Layer 3—12 to 35 inches; silty clay loam

Layer 4—35 to 60 inches; loam

Layer 5—60 to 71 inches; 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): 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: R028AY107NV—Saline floodplain

Component Description**Slaw and similar soils**

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources

Typical vegetation: Basin wildrye, other perennial grasses, alkali sacaton, other perennial forbs, fourwing saltbush, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 5 inches; silt loam

Layer 2—5 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

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 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7w

Ecological site: R028AY107NV—Saline floodplain

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

Contrasting Inclusions**Katelana and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Ecological site: R028BY074NV—Sodic terrace 5-8 P.Z.

Kunzler and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Bigspring and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Basin floor remnants

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3612—Littlespring-Bigspring-Greatday association***Map Unit Setting***

MLRA: 28A

Landscape: Bolson

Elevation: 5,550 to 5,650

Precipitation: 6 to 10 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Littlespring coarse sandy loam, 2 to 4 percent slopes—35 percent

Bigspring gravelly sandy loam, 2 to 4 percent slopes—30 percent

Greatday fine sandy loam, 2 to 4 percent slopes—20 percent

Biji clay loam, 0 to 2 percent slopes—5 percent

Duffer silt loam, 0 to 2 percent slopes—5 percent

Kunzler gravelly fine sandy loam, 0 to 4 percent slopes—5 percent

Component Description**Littlespring and similar soils**

Landform: Basin floor remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium over beach sand derived mainly from limestone and welded tuff

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 5 inches; coarse sandy loam

Layer 2—5 to 10 inches; sandy loam

Layer 3—10 to 27 inches; clay loam

Layer 4—27 to 75 inches; stratified very gravelly sand to 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 Low, (Permeability class: Slow)

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: R028BY074NV—Sodic terrace 5-8 P.Z.

Component Description**Bigspring and similar soils**

Landform: Basin floor remnants

Slope: 2 to 4 percent

Parent material: Alluvium over lacustrine deposits derived from limestone and welded tuff

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 5 inches; gravelly sandy loam
 Layer 2—5 to 12 inches; gravelly sandy loam
 Layer 3—12 to 35 inches; clay loam
 Layer 4—35 to 58 inches; silty clay
 Layer 5—58 to 80 inches; 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 9 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Component Description**Greatday and similar soils**

Landform: Basin floor remnants
 Slope: 2 to 4 percent
 Parent material: Alluvium derived from mixed rock sources, mainly limestone and welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, globemallow, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 50 percent gravel
 Layer 1—0 to 4 inches; fine sandy loam
 Layer 2—4 to 9 inches; gravelly loam
 Layer 3—9 to 27 inches; very gravelly silt loam
 Layer 4—27 to 55 inches; silty clay loam
 Layer 5—55 to 60 inches; sandy 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: Moderate)
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Biji and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Dissected lake plains

Typical vegetation: Western wheatgrass, inland saltgrass, basin wildrye, black greasewood, alkali sacaton, other shrubs, other perennial grasses, other perennial forbs

Ecological site: R028AY106NV—Saline bottom

Duffer and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Sedge, inland saltgrass, Baltic rush, alkali bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, King's ivesia, other perennial forbs, other shrubs

Ecological site: R028AY105NV—Saline meadow

Kunzler and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, greenmolly kochia, black greasewood, other shrubs

Ecological site: R028AY008NV—Sodic terrace 8-10 P. Z.

Management

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

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

3670—Logring-Kyler-Eaglepass association

Map Unit Setting

MLRA: 29

Landscape: Mountains

Elevation: 5,600 to 8,800

Precipitation: 8 to 12 inches

Air temperature: 45 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Logring very cobbly fine sandy loam, 15 to 50 percent slopes—40 percent

Kyler extremely cobbly loam, 8 to 30 percent slopes—30 percent

Eaglepass extremely cobbly loam, 8 to 50 percent slopes—20 percent

Rock outcrop, 30 to 75 percent slopes—8 percent

Wrango gravelly loamy sand, 2 to 8 percent slopes—2 percent

Component Description

Logring and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, buckwheat, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Site index: Utah juniper—45 at an age base of 100 years

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 15 percent fine gravel, 15 percent gravel, 30 percent cobbles

Layer 1—0 to 3 inches; very cobbly fine sandy loam

Layer 2—3 to 10 inches; extremely cobbly loam

Layer 3—10 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: Lithic bedrock: 7 to 14 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: F029XY069NV

Component Description

Kyler and similar soils

Landform: Backslopes of mountains, south aspect

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very cobbly loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

Component Description

Eaglepass and similar soils

Landform: Summits of mountains

Slope: 8 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

Layer 1—0 to 2 inches; extremely cobbly loam

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY040NV—Limestone hill

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

Contrasting Inclusions

Rock outcrop

Composition: 0 to 8 percent

Slope: 30 to 75 percent

Landform: Mountains

Wrango and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3673—Kyler, very stony-Rock outcrop-Kyler association***Map Unit Setting***

MLRA: 29

Landscape: Hills

Elevation: 4,750 to 6,800

Precipitation: 8 to 12 inches

Air temperature: 50 to 54 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Kyler very gravelly very fine sandy loam, warm, 30 to 50 percent slopes—50 percent

Rock outcrop, 30 to 75 percent slopes—25 percent

Kyler very gravelly very fine sandy loam, 8 to 30 percent slopes—15 percent

Annabella sandy loam, 2 to 8 percent slopes—4 percent

Eaglepass extremely gravelly loamy coarse sand, 30 to 75 percent slopes—4 percent

Ursine gravelly loam, 2 to 15 percent slopes—2 percent

Component Description**Kyler and similar soils**

Landform: Backslopes of hills, south aspect

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Needleandthread, other perennial grasses, black sagebrush, Nevada ephedra, Stansbury cliffrose, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly very fine sandy loam

Layer 2—3 to 11 inches; very gravelly very fine sandy loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY160NV—Limestone slope

Component Description**Rock outcrop**

Landform: Hills

Slope: 30 to 75 percent

Component Description**Kyler and similar soils**

Landform: Backslopes of hills, south aspect

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly very fine sandy loam

Layer 2—3 to 11 inches; very gravelly very fine sandy loam

Layer 3—11 to 15 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: Lithic bedrock: 6 to 14 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: R029XY014NV—Shallow calcareous slope 8-12 P.Z.

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

Contrasting Inclusions

Annabella and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Eaglepass and similar soils

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R029XY040NV—Limestone hill

Ursine and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

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

"Range" section

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

3675—Radol-Rock outcrop-Lodar association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 5,850 to 8,650
 Precipitation: 12 to 14 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 90 to 110 days

Composition

Radol very gravelly loam, 15 to 50 percent slopes—40 percent
 Rock outcrop, 30 to 75 percent slopes—25 percent
 Lodar very gravelly loam, 30 to 50 percent slopes—20 percent
 Monarch very gravelly loam, 8 to 30 percent slopes—3 percent
 Highup extremely gravelly silt loam, 30 to 50 percent slopes—3 percent
 Eaglepass very stony sandy loam, cool, 30 to 75 percent slopes—3 percent
 Buzztail very gravelly fine sandy loam, 15 to 50 percent slopes—3 percent
 Amtoft very gravelly loam, moist, 30 to 50 percent slopes—3 percent

Component Description

Radol and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel
 Layer 1—0 to 2 inches; very gravelly loam
 Layer 2—2 to 15 inches; extremely cobbly loam
 Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description**Rock outcrop**

Landform: Mountains
Slope: 30 to 75 percent

Component Description**Lodar and similar soils**

Landform: Mountains, south aspect
Slope: 30 to 50 percent
Parent material: Colluvium and residuum derived from limestone
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam
Layer 2—8 to 16 inches; very gravelly loam
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: Very high
Depth to restrictive feature: Lithic bedrock: 10 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
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: F028AY074NV

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

Contrasting Inclusions**Monarch and similar soils**

Composition: 0 to 3 percent
Slope: 8 to 30 percent
Landform: Backslopes of mountains, north aspect
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon
Ecological site: F028AY077NV

Highup and similar soils

Composition: 0 to 3 percent
Slope: 30 to 50 percent
Landform: Backslopes of upper mountains
Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees
Ecological site: R028AY059NV—Mahogany savanna

Eaglepass and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R028AY029NV—Limestone hill

Buzztail and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Amtoft and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of hills, north aspect

Typical vegetation: Other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Indian ricegrass, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3700—Leo-Delamar association***Map Unit Setting***

MLRA: 29

Landscape: Fan piedmont

Elevation: 4,600 to 5,200

Precipitation: 5 to 8 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 130 to 160 days

Composition

Leo gravelly sandy loam, 0 to 4 percent slopes—55 percent

Delamar gravelly sandy loam, 0 to 4 percent slopes—30 percent

Veet very gravelly sandy loam, 0 to 4 percent slopes—4 percent

Annabella sandy loam, 2 to 4 percent slopes—3 percent

Unsel gravelly fine sandy loam, 2 to 8 percent slopes—3 percent

Tybo gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

Geer fine sandy loam, 0 to 2 percent slopes—1 percent

Handpah gravelly sandy loam, 2 to 8 percent slopes—1 percent

Penoyer very fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description**Leo and similar soils**

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Surface rock fragments: About 20 percent gravel, 15 percent fine gravel

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 60 inches; stratified extremely gravelly coarse sand to gravelly 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 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Component Description

Delamar and similar soils

Landform: Fan remnants

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and minor amounts of limestone

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 10 inches; gravelly sandy clay loam

Layer 3—10 to 21 inches; gravelly clay loam

Layer 4—21 to 34 inches; gravelly sandy loam

Layer 5—34 to 60 inches; cemented material

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: Duripan: 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: R029XY079NV—Droughty loam 5-8 P.Z.

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

Contrasting Inclusions

Veet and similar soils

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Upper inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Annabella and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert peach, other shrubs

Ecological site: R029XY009NV—Upland wash

Unsel and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Shoulders of fan remnants

Typical vegetation: Shadscale, bud sagebrush, galleta

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Tybo and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, fourwing saltbush, Nevada ephedra, spiny hopsage

Ecological site: R029XY016NV—Loamy upland 5-8 P.Z.

Geer and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Handpah and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Penoyer and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Ecological site: R029XY020NV—Silty 5-8 P.Z.

Management

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

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

3701—Leo-Tybo association

Map Unit Setting

MLRA: 29
 Landscape: Fan piedmont
 Elevation: 5,000 to 5,700
 Precipitation: 6 to 8 inches
 Air temperature: 48 to 52 degrees Fahrenheit
 Frost-free period: 120 to 140 days

Composition

Leo gravelly sandy loam, 0 to 4 percent slopes—50 percent
 Tybo gravelly fine sandy loam, 2 to 8 percent slopes—40 percent
 Koyen loamy sand, 2 to 4 percent slopes—5 percent
 Candelaria very gravelly sandy loam, 2 to 8 percent slopes—3 percent
 Handpah gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Leo and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from mixed rock sources
 Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Layer 1—0 to 4 inches; gravelly sandy loam
 Layer 2—4 to 60 inches; stratified extremely gravelly coarse sand to gravelly 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 3 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Component Description

Tybo and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from quartzite, limestone and welded tuff

Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 17 inches; gravelly sandy 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: Very high

Depth to restrictive feature: Duripan: 8 to 20 inches

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

Salinity: Saline within 40 inches

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: R029XY079NV—Droughty loam 5-8 P.Z.

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

Contrasting Inclusions

Koyen and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Lower inset fans

Typical vegetation: Indian ricegrass, galleta, fourwing saltbush, winterfat, other shrubs

Ecological site: R029XY046NV—Sandy loam 5-8 P.Z.

Candelaria and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Handpah and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Management

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

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

3860—Hyzen-Eganroc-Rock outcrop association

Map Unit Setting

MLRA: 28B
 Landscape: Mountains
 Elevation: 7,250 to 10,200
 Precipitation: 12 to 27 inches
 Air temperature: 39 to 43 degrees Fahrenheit
 Frost-free period: 50 to 90 days

Composition

Hyzen extremely stony loam, 30 to 75 percent slopes—35 percent
 Eganroc very stony loam, cool, 30 to 75 percent slopes—30 percent
 Rock outcrop, 30 to 75 percent slopes—20 percent
 Haunchee very cobbly loam, 15 to 50 percent slopes—6 percent
 Hyzen extremely stony loam, 15 to 50 percent slopes—5 percent
 McIvey very gravelly loam, 4 to 30 percent slopes—2 percent
 Wiffo very gravelly loam, 4 to 30 percent slopes—2 percent

Component Description

Hyzen and similar soils

Landform: Mountains
 Slope: 30 to 75 percent
 Parent material: Alluvium over lacustrine deposits derived from mixed rock sources
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's
 needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs,
 black sagebrush, curleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon
 Site index: Utah juniper—20 at an age base of 100 years
 Site index: Singleleaf pinyon—20 at an age base of 100 years

Typical profile:

Layer 1—0 to 2 inches; extremely stony loam
 Layer 2—2 to 12 inches; extremely stony loam
 Layer 3—12 to 16 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: Lithic bedrock: 6 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 0.8 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F028BY060NV

Component Description**Eganroc and similar soils**

Landform: Mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Forest canopy—white fir Forest understory—other shrubs, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, white fir, limber pine, Great Basin bristlecone pine

Site index: White fir—35 at an age base of 50 years

Typical profile:

Layer 1—0 to 9 inches; very stony loam

Layer 2—9 to 34 inches; extremely gravelly loam

Layer 3—34 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: Lithic bedrock: 30 to 40 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: F028BY049NV

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions**Haunchee and similar soils**

Composition: 0 to 6 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Columbia needlegrass, western needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs

Ecological site: R028BY043NV—Calcareous mahogany savanna

Hyzen and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, black sagebrush, littleleaf mountain mahogany, other perennial forbs, other perennial grasses, Scribner needlegrass, other shrubs

Ecological site: R028BY066NV—Limestone hill

McIvey and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Backslopes of upper mountains

Typical vegetation: Western needlegrass, Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, snowberry

Ecological site: R028BY015NV—Loamy slope 12-16 P.Z.

Wiffo and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028BY080NV—Shallow loam 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3870—Newvil-Chuckmill-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,050 to 7,050

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Newvil ashy sandy loam, 2 to 8 percent slopes—50 percent

Chuckmill gravelly ashy loam, 2 to 8 percent slopes—25 percent

Sevenmile ashy sandy loam, 0 to 4 percent slopes—15 percent

Sevenmile ashy sandy loam, moist, 0 to 4 percent slopes—5 percent

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

Component Description

Newvil and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; ashy sandy loam

Layer 2—3 to 12 inches; gravelly ashy sandy clay loam

Layer 3—12 to 17 inches; gravelly ashy loam
 Layer 4—17 to 48 inches; cemented material
 Layer 5—48 to 60 inches; very gravelly ashy coarse sand

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: Duripan: 15 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: R028AY036NV—Shallow clay loam 12-14 P.Z.

Component Description

Chuckmill and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:

Layer 1—0 to 4 inches; gravelly ashy loam
 Layer 2—4 to 14 inches; gravelly ashy clay loam
 Layer 3—14 to 60 inches; cemented material

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: Duripan: 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans
 Slope: 0 to 4 percent
 Parent material: Alluvium derived from welded tuff and some limestone and quartzite
 Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions**Sevenmile and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Nevu and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Ecological site: R028AY050NV—Gravelly clay 10-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3871—Newvil-Sevenmile association***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,200 to 6,700

Precipitation: 8 to 12 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Newvil very gravelly ashy sandy loam, 2 to 8 percent slopes—70 percent

Sevenmile ashy sandy loam, moist, 0 to 4 percent slopes—15 percent

Badena extremely cobbly loam, 2 to 8 percent slopes—5 percent

Sevenmile ashy sandy loam, 2 to 4 percent slopes—5 percent

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

Component Description

Newvil and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly ashy sandy loam

Layer 2—3 to 12 inches; gravelly ashy sandy clay loam

Layer 3—12 to 17 inches; gravelly ashy loam

Layer 4—17 to 48 inches; cemented material

Layer 5—48 to 60 inches; very gravelly ashy coarse sand

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: Duripan: 15 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: R028AY036NV—Shallow clay loam 12-14 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

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

Contrasting Inclusions

Badena and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Backslopes of upper fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Ecological site: R028AY050NV—Gravelly clay 10-12 P.Z.

Sevenmile 6 and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, western wheatgrass, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush

Ecological site: R028AY090NV—Loamy bottom 10-14 P.Z.

Nevu and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of upper fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, squaw apple, Stansbury cliffrose, other shrubs

Ecological site: R028AY050NV—Gravelly clay 10-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3880—Nevu-Okayview-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,150 to 7,100

Precipitation: 8 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Nevu gravelly ashy sandy loam, 2 to 8 percent slopes—40 percent

Okayview very cobbly ashy sandy loam, cool, 8 to 15 percent slopes—35 percent

Sevenmile ashy sandy loam, moist, 2 to 4 percent slopes—15 percent

Newvil gravelly ashy loam, 2 to 8 percent slopes—4 percent

Nuhelen extremely stony ashy loam, cool, 15 to 30 percent slopes—3 percent

Rock outcrop, 2 to 15 percent slopes—3 percent

Component Description

Nevu and similar soils

Landform: Summits of upper fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff

Typical vegetation: Other shrubs, Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose

Typical profile:

Layer 1—0 to 5 inches; gravelly ashy sandy loam

Layer 2—5 to 27 inches; gravelly ashy sandy clay loam

Layer 3—27 to 36 inches; cemented material

Layer 4—36 to 60 inches; gravelly ashy sandy loam

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: Duripan: 20 to 27 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: R028AY050NV—Gravelly clay 10-12 P.Z.

Component Description

Okayview and similar soils

Landform: North facing mountains

Slope: 8 to 15 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Typical profile:

Surface rock fragments: About 2 percent cobbles, 10 percent gravel, 20 percent fine subrounded gravel

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

Layer 2—3 to 11 inches; ashy sandy 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: Paralithic bedrock: 10 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: R028AY064NV—Shallow loam 10-14 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans

Slope: 2 to 4 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

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

Contrasting Inclusions

Newvil and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan remnants

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

Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Nuhelen and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Rock outcrop

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Rock pediments

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3890—Anaud very gravelly loam, 2 to 15 percent slopes***Map Unit Setting***

MLRA: 28A

Landscape: Mountains

Elevation: 6,360 to 7,550

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Anaud very gravelly loam, 2 to 15 percent slopes—85 percent

Nuhelen gravelly sandy loam, 8 to 30 percent slopes—5 percent

Rock outcrop, 2 to 15 percent slopes—4 percent

Cagas extremely cobbly ashy sandy loam, 15 to 30 percent slopes—3 percent

Sevenmile ashy sandy loam, 2 to 4 percent slopes—3 percent

Component Description**Anaud and similar soils**

Landform: Mountains

Slope: 2 to 15 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very gravelly loam

Layer 2—10 to 16 inches; very cobbly clay loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 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: R028AY036NV—Shallow clay loam 12-14 P.Z.

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

Contrasting Inclusions

Nuhelen and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 30 percent
 Landform: Hills, north aspect
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
 Ecological site: F028AY074NV

Rock outcrop

Composition: 0 to 4 percent
 Slope: 2 to 15 percent
 Landform: Hills

Cagas and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Hills
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curleaf mountainmahogany, other shrubs, singleleaf pinyon
 Ecological site: F028AY076NV

Sevenmile and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 4 percent
 Landform: Fan skirts
 Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
 Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Management

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

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

3892—Slockey-Hamtah-Schoolmarm association***Map Unit Setting***

MLRA: 28A

Landscape: Hills

Elevation: 6,400 to 7,850

Precipitation: 12 to 18 inches

Air temperature: 40 to 45 degrees Fahrenheit

Frost-free period: 40 to 100 days

Composition

Slockey very gravelly ashy sandy clay loam, 15 to 50 percent slopes—40 percent

Hamtah very stony ashy sandy clay loam, 15 to 50 percent slopes—30 percent

Schoolmarm gravelly ashy coarse sandy loam, 4 to 15 percent slopes—15 percent

Anaud very cobbly loam, 15 to 50 percent slopes—5 percent

Newwil gravelly ashy loam, 2 to 8 percent slopes—5 percent

Sevenmile ashy sandy loam, 2 to 4 percent slopes—5 percent

Component Description**Slockey and similar soils**

Landform: Rock pediments

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam

Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam

Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam

Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description**Hamtah and similar soils**

Landform: Hills

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, Thurber's needlegrass, other shrubs

Typical profile:

Surface rock fragments: About 6 percent stones
 Layer 1—0 to 10 inches; very stony ashy sandy clay loam
 Layer 2—10 to 21 inches; gravelly ashy sandy clay loam
 Layer 3—21 to 33 inches; gravelly ashy clay loam
 Layer 4—33 to 41 inches; very gravelly ashy clay loam
 Layer 5—41 to 60 inches; gravelly 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 Low, (Permeability class: Very 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: R028AY066NV—Gravelly loam 12-14 P.Z.

Component Description**Schoolmarm and similar soils**

Landform: Ridges
 Slope: 4 to 15 percent
 Parent material: Residuum and colluvium derived from welded tuff
 Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy coarse sandy loam
 Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam
 Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028AY094NV—Claypan 12-14 P.Z.

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

Contrasting Inclusions**Anaud and similar soils**

Composition: 0 to 5 percent
 Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Ecological site: R028AY036NV—Shallow clay loam 12-14 P.Z.

Newvil and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

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

Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Sevenmile and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

3894—Schoolmarm-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Hills

Elevation: 6,400 to 7,450

Precipitation: 10 to 16 inches

Air temperature: 43 to 50 degrees Fahrenheit

Frost-free period: 70 to 120 days

Composition

Schoolmarm gravelly ashy sandy loam, 8 to 30 percent slopes—70 percent

Sevenmile ashy sandy loam, moist, 2 to 8 percent slopes—15 percent

Rock outcrop, 15 to 50 percent slopes—8 percent

Nuhelen gravelly sandy loam, 15 to 50 percent slopes—7 percent

Component Description

Schoolmarm and similar soils

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

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

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY126NV—Cobbly claypan

Component Description

Sevenmile and similar soils

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY091NV—Loamy fan 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

Slope: 15 to 50 percent

Landform: Hills

Nuhelen and similar soils

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Hills, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4001—Modem-Newvil-Sevenmile association***Map Unit Setting***

MLRA: 28A

Landscape: Fan piedmont

Elevation: 6,050 to 8,250

Precipitation: 10 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Modem very gravelly ashy sandy loam, 4 to 15 percent slopes—40 percent

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

Sevenmile ashy sandy loam, moist, 2 to 8 percent slopes—15 percent

Nevu gravelly ashy sandy loam, 2 to 8 percent slopes—9 percent

Yotes gravelly ashy sandy loam, 2 to 4 percent slopes—4 percent

Badena very cobbly fine sandy loam, 2 to 8 percent slopes—2 percent

Component Description**Modem and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from welded tuff and calcareous loess

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Surface rock fragments: About 40 percent gravel

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 10 inches; very gravelly ashy clay loam

Layer 3—10 to 46 inches; cemented material

Layer 4—46 to 60 inches; extremely cobbly ashy 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: 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: Very slow)
 Available water capacity: About 0.7 inch
 Present flooding: Very rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description

Newvil and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from welded tuff
 Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly ashy sandy loam
 Layer 2—3 to 17 inches; very gravelly ashy loam
 Layer 3—17 to 48 inches; cemented material
 Layer 4—48 to 60 inches; very gravelly ashy coarse sand

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 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: R028AY043NV—Shallow calcareous loam 10-14 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from welded tuff and some limestone and quartzite
 Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
 Layer 1—0 to 11 inches; ashy sandy loam
 Layer 2—11 to 35 inches; loam
 Layer 3—35 to 60 inches; stratified extremely gravelly loamy 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)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

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

Contrasting Inclusions

Nevu and similar soils

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Summits of upper fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Ecological site: R028AY050NV—Gravelly clay 10-12 P.Z.

Yotes and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Badena and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4002—Jarab-Ravendog association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,950 to 7,250

Precipitation: 10 to 14 inches

Air temperature: 50 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Jarab very gravelly sandy loam, 2 to 15 percent slopes—70 percent

Ravendog loam, moist, 2 to 8 percent slopes—15 percent

Ursine gravelly loam, 2 to 8 percent slopes—8 percent

Zafod very gravelly sandy loam, 8 to 30 percent slopes—7 percent

Component Description

Jarab and similar soils

Landform: Fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from limestone and from quartzite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs

Site index: Utah juniper—65 at an age base of 100 years

Site index: Singleleaf pinyon—65 at an age base of 100 years

Typical profile:

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

Layer 2—4 to 13 inches; very gravelly loam

Layer 3—13 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: 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: R028AY043NV—Shallow calcareous loam 10-14 P.Z.

Component Description

Ravendog and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed rock sources

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 5 inches; loam

Layer 2—5 to 16 inches; loam

Layer 3—16 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

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

Contrasting Inclusions

Ursine and similar soils

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Zafod and similar soils

Composition: 0 to 7 percent

Slope: 8 to 30 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R028AY017NV—Shallow loam 8-10 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4011—Radol-Lodar association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,150 to 8,250

Precipitation: 12 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Radol very gravelly loam, 15 to 50 percent slopes—65 percent

Lodar very gravelly loam, 15 to 50 percent slopes—20 percent

Buzztail very gravelly fine sandy loam, 8 to 30 percent slopes—8 percent

Rock outcrop, 30 to 75 percent slopes—3 percent
 Eaglepass extremely gravelly loamy coarse sand, 15 to 30 percent slopes—2 percent
 Monarch extremely cobbly fine sandy loam, 15 to 50 percent slopes—2 percent

Component Description

Radol and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose

Typical profile:

Surface rock fragments: About 2 percent stones, 15 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 15 inches; extremely cobbly loam

Layer 3—15 to 19 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY034NV—Shallow calcareous slope 10-14 P.Z.

Component Description

Lodar and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam

Layer 2—8 to 16 inches; very gravelly loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

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

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: F028AY074NV

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

Contrasting Inclusions

Buzztail and similar soils

Composition: 0 to 8 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Rock outcrop

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Mountains

Eaglepass and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Summits of mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R028AY029NV—Limestone hill

Monarch and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Ecological site: F028AY077NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4013—Lodar-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains
 Elevation: 6,300 to 8,450
 Precipitation: 12 to 14 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 90 to 110 days

Composition

Lodar very gravelly loam, 30 to 75 percent slopes—45 percent
 Rock outcrop, 30 to 75 percent slopes—40 percent
 Eaglepass extremely gravelly loamy coarse sand, 15 to 30 percent slopes—7 percent
 Monarch extremely cobbly fine sandy loam, 15 to 50 percent slopes—5 percent
 Eganroc very stony loam, 30 to 75 percent slopes—3 percent

Component Description

Lodar and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 75 percent
 Parent material: Colluvium and residuum derived from limestone
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam
 Layer 2—8 to 16 inches; very gravelly loam
 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: Very high
 Depth to restrictive feature: Lithic bedrock: 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 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: F028AY074NV

Component Description

Rock outcrop

Landform: Mountains
 Slope: 30 to 75 percent

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

Contrasting Inclusions

Eaglepass and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent

Landform: Summits of mountains

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Ecological site: R028AY029NV—Limestone hill

Monarch and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Ecological site: F028AY077NV

Eganroc and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, other shrubs, snowberry, white fir, limber pine, other trees

Ecological site: F028AY098NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4014—Lodar-Eaglepass-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,200 to 8,800

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Lodar very gravelly loam, 15 to 50 percent slopes—50 percent

Eaglepass very stony sandy loam, cool, 30 to 75 percent slopes—20 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Eganroc very stony loam, 30 to 75 percent slopes—4 percent

Haunchee very cobbly loam, 15 to 50 percent slopes—4 percent

Monarch extremely cobbly fine sandy loam, 15 to 50 percent slopes—4 percent

Buzztail very gravelly fine sandy loam, 15 to 50 percent slopes—3 percent

Component Description

Lodar and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam

Layer 2—8 to 16 inches; very gravelly loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

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

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: F028AY074NV

Component Description

Eaglepass and similar soils

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs

Typical profile:

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

Layer 2—2 to 6 inches; extremely gravelly sandy loam

Layer 3—6 to 10 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: Lithic bedrock: 4 to 6 inches

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

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY029NV—Limestone hill

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 75 percent

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

Contrasting Inclusions

Eganroc and similar soils

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, other shrubs, snowberry, white fir, limber pine, other trees

Ecological site: F028AY098NV

Haunchee and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Letterman needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Ecological site: R028AY058NV—Stony mahogany savanna

Monarch and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Ecological site: F028AY077NV

Buzztail and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, snowberry

Ecological site: R028AY065NV—Shallow loam 14+ P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4015—Buzztail-Lodar association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,250 to 8,400
 Precipitation: 10 to 14 inches
 Air temperature: 43 to 50 degrees Fahrenheit
 Frost-free period: 90 to 110 days

Composition

Buzztail very gravelly fine sandy loam, 30 to 50 percent slopes—35 percent
 Lodar very gravelly loam, 30 to 50 percent slopes—30 percent
 Buzztail very gravelly fine sandy loam, dry, 30 to 50 percent slopes—20 percent
 Haunchee very cobbly loam, 15 to 50 percent slopes—7 percent
 Monarch extremely cobbly fine sandy loam, 15 to 50 percent slopes—5 percent
 Jarab very gravelly sandy loam, 8 to 15 percent slopes—3 percent

Component Description

Buzztail and similar soils

Landform: Backslopes of mountains, north aspect
 Slope: 30 to 50 percent
 Parent material: Colluvium and residuum derived from limestone and dolomite
 Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, snowberry

Typical profile:

Surface rock fragments: About 10 percent cobbles, 35 percent gravel, 30 percent fine gravel
 Layer 1—0 to 4 inches; very gravelly fine sandy loam
 Layer 2—4 to 19 inches; very gravelly fine sandy loam
 Layer 3—19 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: Lithic bedrock: 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: R028AY065NV—Shallow loam 14+ P.Z.

Component Description

Lodar and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium and residuum derived from limestone
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Layer 1—0 to 8 inches; very gravelly loam

Layer 2—8 to 16 inches; very gravelly loam

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: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

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

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: F028AY074NV

Component Description

Buzztail and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 30 to 50 percent

Parent material: Colluvium and residuum derived from limestone and dolomite

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Typical profile:

Surface rock fragments: About 30 percent fine gravel, 35 percent gravel, 10 percent cobbles

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 19 inches; very gravelly fine sandy loam

Layer 3—19 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: Lithic bedrock: 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: R028AY064NV—Shallow loam 10-14 P.Z.

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

Contrasting Inclusions

Haunchee and similar soils

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Letterman needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Ecological site: R028AY058NV—Stony mahogany savanna

Monarch and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, curl-leaf mountain mahogany, antelope bitterbrush, other shrubs, snowberry, singleleaf pinyon

Ecological site: F028AY077NV

Jarab and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Fan remnants

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other perennial grasses, Indian ricegrass, needleandthread, muttongrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs

Ecological site: R028AY043NV—Shallow calcareous loam 10-14 P.Z.

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4017—Amtoft-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,150 to 8,400

Precipitation: 10 to 14 inches

Air temperature: 46 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Amtoft very gravelly loam, dry, 8 to 30 percent slopes—65 percent

Rock outcrop, 15 to 50 percent slopes—25 percent

Radol very gravelly loam, 30 to 50 percent slopes—5 percent

Buzztail very gravelly fine sandy loam, 30 to 50 percent slopes—5 percent

Component Description

Amtoft and similar soils

Landform: Backslopes of mountains, north aspect

Slope: 8 to 30 percent

Parent material: Residuum and colluvium weathered from limestone

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Typical profile:

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 11 inches; very gravelly loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 20 inches

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

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Slope: 15 to 50 percent

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

Contrasting Inclusions

Radol and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose

Ecological site: R028AY034NV—Shallow calcareous slope 10-14 P.Z.

Buzztail and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

4018—Eoj-Schoolmarm-Mclvey association***Map Unit Setting***

MLRA: 28A

Landscape: Mountains

Elevation: 6,400 to 8,100

Precipitation: 12 to 16 inches

Air temperature: 40 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Eoj gravelly loam, 8 to 30 percent slopes—40 percent

Schoolmarm gravelly ashy sandy loam, moist, 8 to 30 percent slopes—30 percent

Mclvey extremely gravelly sandy loam, 8 to 30 percent slopes—20 percent

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

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

Component Description**Eoj and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from quartzite and limestone

Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 10 percent gravel, 10 percent fine gravel

Layer 1—0 to 6 inches; gravelly loam

Layer 2—6 to 60 inches; gravelly 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): Low, (Permeability class: Very 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: R028AY094NV—Claypan 12-14 P.Z.

Component Description**Schoolmarm and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam
 Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY094NV—Claypan 12-14 P.Z.

Component Description

McIvey and similar soils

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Alluvium or colluvium derived from quartzite and shale

Typical vegetation: Thurber's needlegrass, basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 10 percent cobbles, 20 percent gravel, 30 percent fine gravel

Layer 1—0 to 12 inches; extremely gravelly sandy loam

Layer 2—12 to 16 inches; very gravelly clay loam

Layer 3—16 to 31 inches; extremely gravelly clay

Layer 4—31 to 60 inches; very gravelly 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): Low, (Permeability class: Very slow)

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: R028AY092NV—Loamy 12-14 P.Z.

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

Contrasting Inclusions

Starflyer and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Bellehelen and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Summits and backslopes of mountains, north aspect

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4020—Schoolmarm-Farepeak-Rock outcrop association

Map Unit Setting

MLRA: 28A

Landscape:

Elevation: 6,100 to 8,050

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Schoolmarm gravelly ashy sandy loam, 4 to 30 percent slopes—40 percent

Farepeak very gravelly ashy loam, 8 to 30 percent slopes—35 percent

Rock outcrop, 30 to 50 percent slopes—15 percent

Slockey very gravelly ashy sandy clay loam, 8 to 30 percent slopes—3 percent

Schoolmarm very gravelly ashy sandy loam, 8 to 30 percent slopes—3 percent

Nuhelen very gravelly loam, 15 to 50 percent slopes—2 percent

Rubble land, 15 to 50 percent slopes—2 percent

Component Description

Schoolmarm and similar soils

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

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

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY126NV—Cobbly claypan

Component Description**Farepeak and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones

Layer 1—0 to 3 inches; very gravelly ashy loam

Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam

Layer 3—13 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: Lithic bedrock: 10 to 14 inches

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

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: F028AY099NV

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 50 percent

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

Contrasting Inclusions**Slockey and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Schoolmarm and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Mountains

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs

Ecological site: R028AY062NV—Mountain ridge

Nuhelen and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Utah serviceberry, low sagebrush, curl-leaf mountain mahogany, other perennial forbs, singleleaf pinyon, muttongrass, bottlebrush squirreltail, bluebunch wheatgrass, other trees, other shrubs

Ecological site: F028AY075NV

Rubble land

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountains

Management

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

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

4022—Schoolmarm-Slockey association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 5,800 to 7,200

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Schoolmarm gravelly ashy sandy loam, 4 to 30 percent slopes—40 percent

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

Schoolmarm gravelly ashy sandy loam, moist, 4 to 30 percent slopes—20 percent

Sevenmile ashy sandy loam, 2 to 4 percent slopes—3 percent

Tractuff extremely cobbly loam, 15 to 50 percent slopes—3 percent

Rock outcrop, 30 to 50 percent slopes—2 percent

Rubble land, 15 to 50 percent slopes—2 percent

Component Description

Schoolmarm and similar soils

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

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

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY126NV—Cobbly claypan

Component Description

Slockey and similar soils

Landform: Backslopes of mountains

Slope: 4 to 30 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam

Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam

Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam

Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description

Schoolmarm and similar soils

Landform: Backslopes of mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY094NV—Claypan 12-14 P.Z.

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

Contrasting Inclusions

Sevenmile and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Tractuff and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY099NV

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Rubble land

Composition: 0 to 2 percent
 Slope: 15 to 50 percent
 Landform: Mountains

Management

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

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

4024—Slockey-Schoolmarm association***Map Unit Setting***

MLRA: 28A
 Landscape: Mountains
 Elevation: 5,800 to 7,200
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 70 to 100 days

Composition

Slockey very gravelly ashy sandy clay loam, 4 to 30 percent slopes—35 percent
 Schoolmarm gravelly ashy sandy loam, dry, 4 to 30 percent slopes—30 percent
 Schoolmarm gravelly ashy sandy loam, moist, 8 to 30 percent slopes—20 percent
 Schoolmarm gravelly ashy coarse sandy loam, 30 to 50 percent slopes—5 percent
 Sevenmile ashy sandy loam, 2 to 4 percent slopes—5 percent
 Rock outcrop, 30 to 50 percent slopes—5 percent

Component Description**Slockey and similar soils**

Landform: Backslopes of mountains
 Slope: 4 to 30 percent
 Parent material: Colluvium and residuum derived from welded tuff
 Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam
 Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam
 Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam
 Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description**Schoolmarm and similar soils**

Landform: Summits of mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY062NV—Mountain ridge

Component Description**Schoolmarm and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly ashy sandy loam

Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam

Layer 3—11 to 15 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: Lithic bedrock: 10 to 14 inches

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

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY094NV—Claypan 12-14 P.Z.

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

Contrasting Inclusions**Schoolmarm and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

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

Ecological site: R028AY126NV—Cobbly claypan

Sevenmile and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

4030—Rock outcrop-Starflyer association***Map Unit Setting***

MLRA: 28A

Landscape: Mountains

Elevation: 5,950 to 8,100

Precipitation: 10 to 14 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Rock outcrop, 30 to 50 percent slopes—50 percent

Starflyer very cobbly ashy coarse sandy loam, 4 to 30 percent slopes—35 percent

Ponyspring gravelly ashy coarse sandy loam, 2 to 8 percent slopes—9 percent

Schoolmarm gravelly ashy coarse sandy loam, 15 to 50 percent slopes—6 percent

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 50 percent

Component Description

Starflyer and similar soils

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Typical profile:

Surface rock fragments: About 65 percent cobbles, 20 percent gravel

Layer 1—0 to 3 inches; very cobbly ashy coarse sandy loam

Layer 2—3 to 18 inches; very cobbly ashy sandy clay loam

Layer 3—18 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

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

Contrasting Inclusions

Ponyspring and similar soils

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Backslopes of rock pediments

Typical vegetation: Other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs, Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass

Ecological site: R028AY126NV—Cobbly claypan

Schoolmarm and similar soils

Composition: 0 to 6 percent

Slope: 15 to 50 percent

Landform: Mountains

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

Ecological site: R028AY126NV—Cobbly claypan

Management

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

"Engineering" and "Soil Properties" sections

4032—Zafod-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont

Elevation: 5,950 to 6,550

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Zafod very gravelly sandy loam, 2 to 8 percent slopes—65 percent

Sevenmile ashy sandy loam, moist, 2 to 8 percent slopes—20 percent

Ursine gravelly loam, 2 to 8 percent slopes—9 percent

Heist loamy sand, 0 to 4 percent slopes—6 percent

Component Description

Zafod and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from quartzite and limestone

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 30 percent fine gravel, 30 percent gravel, 2 percent cobbles

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

Layer 2—7 to 16 inches; gravelly sandy loam

Layer 3—16 to 24 inches; extremely gravelly coarse sandy loam

Layer 4—24 to 34 inches; cemented material

Layer 5—34 to 60 inches; very gravelly coarse 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: 20 to 39 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: R028AY017NV—Shallow loam 8-10 P.Z.

Component Description

Sevenmile and similar soils

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite

Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:

Surface rock fragments: About 5 percent fine gravel, 10 percent gravel

Layer 1—0 to 11 inches; ashy sandy loam

Layer 2—11 to 35 inches; loam

Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Ursine and similar soils

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Upper fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Heist and similar soils

Composition: 0 to 6 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

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

"Range" section

"Engineering" and "Soil Properties" sections

4035—Highup-Rock outcrop-Eganroc association

Map Unit Setting

MLRA: 28A

Landscape: Mountains

Elevation: 6,450 to 10,200

Precipitation: 16 to 27 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Highup extremely gravelly silt loam, 15 to 50 percent slopes—40 percent

Rock outcrop, 30 to 75 percent slopes—30 percent

Eganroc very stony loam, 30 to 75 percent slopes—15 percent

Radol very gravelly loam, 15 to 50 percent slopes—7 percent

Lodar very gravelly loam, 15 to 50 percent slopes—4 percent

Buzztail very gravelly fine sandy loam, 15 to 50 percent slopes—4 percent

Component Description**Highup and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from limestone

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Typical profile:

Surface rock fragments: About 70 percent gravel, 5 percent cobbles, 3 percent stones

Layer 1—0 to 5 inches; extremely gravelly silt loam

Layer 2—5 to 16 inches; very gravelly silt loam

Layer 3—16 to 33 inches; extremely gravelly silt loam

Layer 4—33 to 37 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: Lithic bedrock: 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: 7e

Ecological site: R028AY059NV—Mahogany savanna

Component Description**Rock outcrop**

Landform: Mountains

Slope: 30 to 75 percent

Component Description**Eganroc and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Residuum and colluvium derived from limestone and dolomite

Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregon grape, other shrubs, snowberry, white fir, limber pine, other trees

Site index: White fir—20 at an age base of 50 years

Typical profile:

Layer 1—0 to 9 inches; very stony loam

Layer 2—9 to 34 inches; extremely gravelly loam

Layer 3—34 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: Lithic bedrock: 30 to 40 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: F028AY098NV

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

Contrasting Inclusions

Radol and similar soils

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Pine needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs

Ecological site: R028AY096NV—Calcareous mountain ridge

Lodar and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F028AY074NV

Buzztail and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains, north aspect

Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, snowberry

Ecological site: R028AY065NV—Shallow loam 14+ P.Z.

Management

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

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

4040—Farepeak-Hamtah-Starflyer association

Map Unit Setting

MLRA: 28A
 Landscape: Mountains
 Elevation: 6,200 to 7,100
 Precipitation: 12 to 20 inches
 Air temperature: 40 to 45 degrees Fahrenheit
 Frost-free period: 50 to 100 days

Composition

Farepeak extremely cobbly ashy loam, 15 to 50 percent slopes—35 percent
 Hamtah very stony ashy sandy clay loam, 15 to 50 percent slopes—25 percent
 Starflyer very cobbly ashy coarse sandy loam, 4 to 30 percent slopes—25 percent
 Schoolmarm gravelly ashy sandy loam, 30 to 50 percent slopes—5 percent
 Slockey very gravelly ashy sandy clay loam, 15 to 50 percent slopes—5 percent
 Rock outcrop, 30 to 75 percent slopes—3 percent
 Rubble land, 30 to 75 percent slopes—2 percent

Component Description

Farepeak and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 50 percent
 Parent material: Colluvium and residuum derived from welded tuff
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
 Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:

Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones
 Layer 1—0 to 3 inches; extremely cobbly ashy loam
 Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam
 Layer 3—13 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: Lithic bedrock: 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
 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: F028AY099NV

Component Description**Hamtah and similar soils**

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from welded tuff

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 6 percent stones

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

Layer 2—10 to 21 inches; gravelly ashy sandy clay loam

Layer 3—21 to 33 inches; gravelly ashy clay loam

Layer 4—33 to 41 inches; very gravelly ashy clay loam

Layer 5—41 to 60 inches; gravelly 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 Low, (Permeability class: Very 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: R028AY066NV—Gravelly loam 12-14 P.Z.

Component Description**Starflyer and similar soils**

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from welded tuff

Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Typical profile:

Surface rock fragments: About 65 percent cobbles, 20 percent gravel

Layer 1—0 to 3 inches; very cobbly ashy coarse sandy loam

Layer 2—3 to 18 inches; very cobbly ashy sandy clay loam

Layer 3—18 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: Lithic bedrock: 14 to 20 inches

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

Available water capacity: About 3 inches
Present flooding: Very rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

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

Contrasting Inclusions

Schoolmarm and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Mountains
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs
Ecological site: R028AY126NV—Cobbly claypan

Slockey and similar soils

Composition: 0 to 5 percent
Slope: 15 to 50 percent
Landform: Mountains
Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees
Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Rock outcrop

Composition: 0 to 3 percent
Slope: 30 to 75 percent
Landform: Mountains

Rubble land

Composition: 0 to 2 percent
Slope: 30 to 75 percent
Landform: Mountains

Management

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

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

5021—Atlanta-Escalante association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,900 to 5,950
Precipitation: 8 to 10 inches

Air temperature: 46 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Atlanta fine sandy loam, 2 to 8 percent slopes—70 percent
 Escalante gravelly sandy loam, 2 to 4 percent slopes—25 percent
 Ursine gravelly loam, 2 to 8 percent slopes—3 percent
 Linoyer very fine sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Atlanta and similar soils

Landform: Fan aprons
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from limestone and welded tuff
 Typical vegetation: Basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush

Typical profile:

Layer 1—0 to 10 inches; fine sandy loam
 Layer 2—10 to 60 inches; 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)
 Sodicity: Sodic within 40 inches
 Available water capacity: About 6 inches
 Present flooding: Occasional
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 7s
 Ecological site: R028AY121NV—Deep loamy 8-10 P.Z.

Component Description

Escalante and similar soils

Landform: Inset fans
 Slope: 2 to 4 percent
 Parent material: Alluvium derived from rhyolite and some limestone
 Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam
 Layer 2—3 to 27 inches; gravelly sandy loam
 Layer 3—27 to 60 inches; very gravelly 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 6 inches

Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e
Nonirrigated land capability: 7s
Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

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

Contrasting Inclusions

Ursine and similar soils

Composition: 0 to 3 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Linoyer and similar soils

Composition: 0 to 2 percent
Slope: 2 to 8 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY030NV—Silty 8-10 P.Z.

Management

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

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

Prime Farmland and Other Important Farmlands

The following list, "Prime and Other Important Farmlands", 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. In Nevada, farmland of statewide importance "are actual areas having a partial or full irrigation water supply, which is used for the production of food, fiber, forage, and oilseed crops."

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.

Prime and other Important Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Map unit name	Farmland Classification
1021	Geer-Penoyer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1073	Koyen-Colval association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1075	Koyen-Penoyer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1076	Koyen-Geer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1087	Glotrain-Koyen association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1100	Linoyer-Heist association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1103	Patter-Sevenmile association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1104	Colval-Penoyer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1340	Heist association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1350	Heist-Chuffa association	Prime farmland if irrigated and reclaimed of excess salts and sodium
1730	Qwynn-Devildog association	Prime farmland if irrigated and reclaimed of excess salts and sodium
2010	Chuffa association	Prime farmland if irrigated and reclaimed of excess salts and sodium
2061	Crestline-Linoyer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
2312	Fang-Nyala association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3170	Linoyer-Escalante association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3190	Penoyer-Geer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3192	Saltydog-Ambush-Panacker association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3194	Ambush-Panacker-Playas association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3196	Saltydog-Geer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3198	Ambush-Penoyer association	Prime farmland if irrigated and reclaimed of excess salts and sodium
3612	Littlespring-Bigspring-Greatday 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 and 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. 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 Aridisol.

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 Argid (Arg, meaning presence of an argillic horizon, plus id, from Aridisol).

GREAT GROUP.—Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplargid (*Hapl*, meaning minimal horizonation, plus Argid, the suborder of the Aridisols that has an argillic horizon).

SUBGROUP.—Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Calciargids.

FAMILY.—Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, mixed, superactive, mesic Typic Calciargids.

SERIES.—The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. Saltydog series is an example of a series within the family of coarse-loamy, mixed, superactive, mesic Typic Haplargids.

The table "Taxonomic Classification of the Soils" indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

Soil Series and their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993) and in the "Field Book for Describing and Sampling Soils" (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff,

1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). Unless otherwise indicated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the series.

Ambush series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very low.

Landform: Alluvial flat.

Parent material: Eolian over lacustrine deposits derived from mixed limestone and welded tuff.

Slope range: 0 to 2 percent.

Elevation: 4,550 to 4,850 feet.

Mean annual precipitation: 5 to 7 inches.

Mean annual air temperature: 53 to 57 degrees F.

Frost-free period: 120 to 160 days.

Native plants: Indian ricegrass, bottlebrush squirreltail, and shadscale.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Petronodic Haplocalcids

Typical pedon: Ambush fine sandy loam in an area of map unit 3194, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with about 40 percent cyanobacteria and 5 percent lichens which are evident when the surface is wet.

A—0 to 5 inches; very pale brown (10YR 7/3) fine sandy loam, yellowish brown (10YR 5/4) moist; moderate very thick platy structure; soft, very friable, nonsticky and slightly plastic; few very fine and fine roots; many very fine, common fine, and few medium vesicular pores; calcium carbonate equivalent is 22 percent; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

Bk1—5 to 14 inches; very pale brown (10YR 7/3) very gravelly sandy loam, brownish yellow (10YR 6/6) moist; strong medium and coarse subangular blocky structure; very hard, firm, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine, and few medium interstitial and tubular pores; secondary calcium carbonate is finely disseminated; 40 percent extremely hard, strongly cemented, medium spherical secondary calcium carbonate nodules; calcium carbonate equivalent is 30 percent; violently effervescent; strongly alkaline (pH 8.8); gradual smooth boundary.

Bk2—14 to 31 inches; white (10YR 8/1) fine sandy loam, light brownish gray (10YR 6/2) moist; moderate medium prismatic structure parting to strong medium and coarse subangular blocky; hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine, fine and medium irregular and tubular pores; secondary calcium carbonate is finely disseminated; 8 percent extremely hard, strongly cemented, medium spherical secondary calcium carbonate nodules; calcium carbonate equivalent is 33 percent; violently effervescent; very strongly alkaline (pH 9.1); gradual smooth boundary.

Bk3—31 to 61 inches; white (10YR 8/1) fine sandy loam, pale brown (10YR 6/3) moist; strong coarse prismatic structure parting to strong medium and coarse subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine, fine and medium irregular pores; secondary calcium carbonate is finely disseminated, with few (2 percent) fine threads; calcium carbonate equivalent is 18 percent; violently effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; about 14.5 miles north of Highway 93 in Dry Lake Valley, about 0.25 mile west of Bristol Reservoir and about 20 feet south of jeep trail; 800 feet north and 400 feet east of the southwest corner section 9, T.2 S., R.64 E.; USGS Deadman Spring SE 7.5 minute topographic quadrangle; 37 degrees, 47 minutes, 07 seconds north latitude and 114 degrees, 49 minutes, 18 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Typic aridic soil moisture regime.

Soil temperature: 55 to 59 degrees F.

Depth to calcic horizon: 3 to 5 inches.

Thickness of the calcic horizon: 10 to 30 inches.

Control section:

Clay content—10 to 18 percent.

Rock fragments—Averages 2 to 10 percent medium sized, extremely hard, strongly cemented spherical secondary calcium carbonate nodules.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 3 or 4 moist.

Calcium carbonate equivalent—20 to 25 percent.

Reaction—Moderately alkaline or strongly alkaline.

Bk1 horizon:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—1 through 4 dry, 2 through 6 moist.

Textures—Fine sandy loam, loam or sandy loam.

Clay content—10 to 18 percent.

Rock fragments—20 to 40 percent calcium carbonate-cemented nodules.

Structure—Moderate or strong, medium or coarse subangular blocky structure.

Calcium carbonate equivalent—25 to 35 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Bk2 horizon:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—1 through 4 dry, 2 through 6 moist.

Textures—Fine sandy loam, loam or sandy loam.

Clay content—10 to 18 percent.

Rock fragments—5 to 20 percent calcium carbonate-cemented nodules.

Structure—Medium or coarse prismatic structure parting to moderate or strong, medium or coarse subangular blocky.

Calcium carbonate equivalent—25 to 35 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Bk3 horizon:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—1 through 3 dry, 2 or 3 moist.

Texture—Very fine sandy loam, fine sandy loam or sandy loam.

Clay content—12 to 16 percent.

Rock fragments—0 to 5 percent calcium carbonate-cemented nodules.

Structure—Medium or coarse subangular blocky, massive, or prismatic parting to subangular blocky.

Calcium carbonate equivalent—15 to 20 percent.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Amelar series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: High and very high.

Landform: Backslopes of mountains.

Parent material: Colluvium and alluvium derived from limestone and sandstone.

Slope range: 15 to 30 percent.

Elevation: 8,150 to 8,750 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 39 to 44 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, muttongrass, Utah serviceberry, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Calcic Argixerolls

Typical pedon: Amelar gravelly silt loam, in an area of Nye County, Nevada, Northeast part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 30 percent pebbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark brown (10YR 2/2) moist, weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; 20 percent pebbles; slightly alkaline (pH 7.4); abrupt smooth boundary.

A2—2 to 6 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark brown (10YR 2/2) moist, weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; common fine tubular pores; 25 percent pebbles, 5 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt—6 to 10 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist, moderate medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; many very fine and medium roots; common fine tubular pores; common distinct clay films on faces of peds and lining pores; few faint secondary calcium carbonate coats on undersides of rock fragments; 25 percent pebbles and 20 percent cobbles; moderately alkaline (pH 8.0); clear smooth boundary.

Btk—10 to 15 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, fine and medium roots; common fine tubular pores; common distinct clay films on faces of ped and coating pores; 25 percent pebbles and 20 percent cobbles; distinct secondary calcium carbonate pendants on undersides of pebbles and cobbles; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—15 to 19 inches; very pale brown (10YR 7/3) very gravelly silt loam, pale brown (10YR 6/3) moist; strong fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine tubular pores; few secondary calcium carbonate masses and distinct secondary calcium carbonate pendants on undersides of rock fragments; 35 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—19 to 28 inches; light gray (10YR 7/2) very gravelly silt loam, light brownish gray (10YR 6/2) moist; massive, hard, friable, slightly sticky and slightly plastic; few fine tubular roots, few fine tubular pores; distinct secondary calcium carbonate pendants on undersides of rock fragments; violently effervescent; 40 percent pebbles and 15 percent cobbles; moderately alkaline (pH 8.0); clear smooth boundary.

Bk3—28 to 60 inches; very pale brown (10YR 7/3) very gravelly loam, pale brown (10YR 6/3) moist, massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine tubular roots, few fine tubular pores; distinct secondary calcium carbonate pendants on underside of rock fragments; violently effervescent; 40 percent pebbles and 10 percent cobbles; moderately alkaline (pH 8.0)

Type location: Nye County Nevada; about 400 feet north and 300 feet east of the southwest corner section 3, T.9 N., R.62 E.; 38 degrees, 40 minutes, 44 seconds north latitude and 115 degrees, 00 minutes, 30 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually moist in late fall through early summer, dry mid-summer through mid-fall.

Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 10 to 15 inches, includes part or all of the argillic horizon.

Depth to base of argillic horizon: 15 to 20 inches.

Depth to secondary carbonates: 10 to 15 inches.

Control section:

Clay content—27 to 35 percent.

Rock fragments—35 to 60 percent, mainly pebbles and cobbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Carbonates—Noneffervescent to strongly effervescent.

Bt and Btk horizons:

Value—4 through 6 dry.

Chroma—2 or 3, dry or moist.

Texture—Very cobbly silty clay loam or very cobbly clay loam.

Clay content—27 to 35 percent.

Rock fragments—20 to 35 percent pebbles, 15 to 25 percent cobbles.

Carbonates—Noneffervescent to violently effervescent.

Consistence—Soft to slightly hard, dry.

Bk horizons:

Value—6 through 8 dry, 5 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly silt loam or very gravelly loam.

Structure—Subangular blocky or massive.

Consistence—Slightly hard or hard, dry; very friable or friable, moist; slightly sticky or moderately sticky, slightly plastic or moderately plastic, wet.

Reaction—Moderately alkaline or strongly alkaline.

Amtoft series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High and very high.

Landform: Backslope of mountains and hills.

Parent material: Residuum and colluvium derived from limestone, sandstone, and shale.

Slope range: 8 to 50 percent.

Elevation: 5,000 to 8,850 feet.

Mean annual precipitation: 8 to 14 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, desert needlegrass, black sagebrush, Stansbury's cliffrose, singleleaf pinyon and Utah juniper. Other areas may support bluebunch wheatgrass.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Haplocalcids

Typical pedon: Amtoft very gravelly loam in an area of map unit 1900, rangeland. (Colors are dry soil unless otherwise noted.) The soil surface is partially covered with approximately 50 percent pebbles, 20 percent cobbles and 3 percent stones.

A—0 to 3 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, and fine and few medium roots; common fine vesicular pores; 35 percent pebbles, 10 percent cobbles and 3 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—3 to 7 inches; brown (10YR 5/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common very fine tubular pores; 50 percent pebbles and 10 percent cobbles; many (30 percent) very fine secondary calcium carbonate coats around rock fragments; violently effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bk2—7 to 11 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine and fine tubular pores; 30 percent pebbles, 10 percent cobbles and 2 percent stones; many (30 percent) very fine secondary calcium carbonate coats around rock fragments; violently effervescent; strongly alkaline (pH 8.6); very abrupt smooth boundary.

R—11 inches; hard, fractured limestone.

Type location: Lincoln County, Nevada; about 0.75 mile south of Lincoln and Nye county line in the Timber Mountains; USGS Timber Mountain Pass East 7.5 minute topographic quadrangle; 38 degrees, 2 minutes, 21 seconds north latitude and 115 degrees, 6 minutes, 28 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soils are usually dry between a depth of 8 inches and bedrock. In 7 out of 10 years they are dry in all parts of the moisture control section 70 to 85 days during the summer and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. The soil moisture regime is aridic bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 10 to 20 inches.

Particle-size control section:

Clay content—12 to 27 percent.

Rock fragments—35 to 80 percent.

Calcic horizon thickness—6 to 11 inches.

Other features—Some pedons have Bw horizons.

A horizon:

Hue—2.5Y, 10YR, or 7.5YR.

Value—5 to 7 dry, 3 to 5 moist. (The value of 5.5 or less dry and 3.5 or less moist occurs within 4 inches of the surface.)

Chroma—2 through 4, dry or moist.

Texture—Loam or fine sandy loam.

Rock fragments—15 to 80 percent.

Reaction—Slightly alkaline to strongly alkaline.

Calcium carbonate equivalent—20 to 70 percent, in the material less than 2mm.

Bk horizons:

Hue—2.5Y, 10YR or 7.5YR.

Value—5 to 8 dry, 4 to 7 moist.

Chroma—2 to 4, dry or moist.

Texture—Loam or fine sandy loam.

Rock fragments—35 to 80 percent that are flagstones, cobbles, or gravel.

Structure—Subangular blocky or is massive.

Consistence—Soft to slightly hard, very friable or friable, sticky to slightly sticky and slightly plastic or plastic.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—40 to 80 percent, in the material less than 2mm.

Conductivity—0 to 4 mmhos/cm.

Anaud series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium to very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from welded tuff with a component of volcanic ash.

Slope range: 2 to 30 percent.

Elevation: 6,100 to 8,400 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 80 to 100 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls

Typical pedon: Anaud very cobbly loam in an area of map unit 3010, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 20 percent pebbles and 30 percent cobbles.

A1—0 to 3 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; 20 percent pebbles and 30 percent cobbles; neutral (pH 7.2); clear smooth boundary.

A2—3 to 10 inches; brown (10YR 4/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine, medium and coarse roots; many very fine and fine tubular pores; 20 percent pebbles and 30 percent cobbles; neutral (pH 7.2); clear wavy boundary.

Bt—10 to 16 inches; brown (10YR 4/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; slightly hard, friable, moderately sticky and very plastic; common very fine, fine, medium and coarse roots; common very fine and fine tubular pores; common distinct clay films lining pores and on faces of peds; 20 percent pebbles and 30 percent cobbles; neutral (pH 7.2); abrupt irregular boundary.

R—16 inches; hard welded tuff.

Type location: Lincoln County, Nevada; approximately 15 miles northeast of Atlanta; 3,200 feet north and 3,500 feet west of the projected southeastern corner of section 10, T.8 N., R.67 E.; 38 degrees, 34 minutes, 12 seconds north latitude and 114 degrees, 25 minutes, 55 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and fall and intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. Aridic bordering on xeric moisture regime.

Soil temperature: 45 to 47 degrees.

Mollic epipedon thickness: 14 to 20 inches including all or part of the argillic horizon.

Depth to bedrock: 14 to 20 inches.

Reaction: Neutral through moderately alkaline.

Volcanic glass content: 15 to 30 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—Averages 20 to 35 percent.

Rock fragments—35 to 60 percent; mainly cobbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.
 Chroma—1 through 3, dry or moist.
 Organic matter content—1 to 3 percent.

Bt horizon:

Value—4 through 6 dry, 2 through 4 moist.
 Chroma—2 through 4 dry, 2 or 3 moist.
 Texture—Clay loam or loam.
 Clay content—20 to 35 percent.
 Rock fragments—35 to 60 percent; mainly cobbles.
 Carbonates—The matrix is non-calcareous. Thin coatings of calcium carbonate are on rock fragments in some pedons.

Armespan series

Depth class: Very deep.
Drainage class: Well drained.
Permeability: Moderate to rapid.
Runoff: Low to medium.
Landform: Fan remnants, inset fans, and beach terraces.
Parent material: Alluvium derived from mixed rock sources.
Slope range: 0 to 8 percent.
Elevation: 4,300 to 6,800 feet.
Mean annual precipitation: 8 to 12 inches.
Mean annual air temperature: 50 to 54 degrees F.
Frost-free period: 100 to 130 days.
Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Durinodic Xeric Haplocalcids

Typical pedon: Armespan gravelly sandy loam in an area of map unit 1010, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 35 percent pebbles.

- A—0 to 3 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; few fine vesicular pores; 15 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Bk1—3 to 6 inches; pale brown (10YR 6/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine, medium and coarse roots; common fine interstitial pores; 15 percent pebbles; secondary calcium carbonate is disseminated and occur as common (5 percent) very fine coats around rock fragments; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.
- Bk2—6 to 11 inches; pale brown (10YR 6/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine, medium and coarse roots; common fine interstitial pores; 30 percent pebbles; secondary calcium carbonate disseminated and occur as common (5 percent) very fine coats around rock fragments; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.
- Bqk—11 to 22 inches; very pale brown (10YR 8/3) very gravelly sandy loam, brown (10YR 5/3) moist; massive; hard, firm, nonsticky and nonplastic; few fine and medium roots; few fine interstitial pores; 35 percent pebbles; 35 percent durinodes; common (20 percent) 1 mm thick pendant on bottom of rock fragments; discontinuous (20 percent) weakly cemented layers of secondary calcium carbonate and secondary silica; violently effervescent; moderately alkaline (pH 8.3); abrupt wavy boundary.
- Ck—22 to 60 inches; very pale brown (10YR 7/4) very gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; hard, firm, nonsticky and nonplastic; few fine and medium roots; few fine interstitial pores; 40 percent pebbles and 5

percent cobbles; discontinuous (20 percent) weakly cemented layers of secondary calcium carbonate; violently effervescent; moderately alkaline (pH 8.3).

Type location: Lincoln County, Nevada; about 0.75 mile west of the Utah-Nevada border; USGS Hamlin Well 7.5 minute topographic quadrangle; 38 degrees, 26 minutes, 41 seconds north latitude and 114 degrees, 3 minutes, 5 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convection storms. Aridic moisture regime bordering on Xeric.

Soil temperature: 53 to 59 degrees F.

Depth to calcic horizon: 4 to 10 inches.

Thickness of calcic horizon: 15 to 35 inches.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—35 to 60 percent.

Effervescence—Strongly effervescent or violently effervescent throughout.

Reaction—Moderately alkaline or strongly alkaline.

A horizons:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Bk horizon:

Value—6 through 8 dry, 5 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly sandy loam or gravelly loam.

Rock fragments—15 to 35 percent, mainly pebbles.

Consistence—Soft or slightly hard dry, very friable or friable moist, nonsticky or slightly sticky and nonplastic or slightly plastic.

Structure—Massive, weak to moderate platy or subangular blocky.

Identifiable secondary carbonates—Secondary calcium carbonate throughout horizon matrix as soft coats and masses. Some pedons have few to many fine coats and pendants on bottom of pebbles.

Calcium carbonate equivalent—10 to 35 percent.

Bqk horizon:

Value—6 through 8 dry, 5 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly sandy loam or very gravelly coarse sandy loam.

Rock fragments—35 to 60 percent, mainly pebbles.

Consistence—Loose to hard, dry; loose to firm, moist; nonsticky to slightly sticky and nonplastic to slightly plastic wet.

Secondary silica—20 to 40 percent silica and carbonate-cemented durinodes. 20 to 50 percent discontinuous cemented layers of secondary calcium carbonate and silica.

Identifiable secondary carbonates—Common or many pendants on bottom of rock fragments. Some pedons have few fine or medium soft masses of calcium carbonate.

Calcium carbonate equivalent—10 to 35 percent.

Ck horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly loamy coarse sand or very gravelly loamy sand.

Rock fragments—35 to 60 percent, mainly pebbles.

Clay content—5 to 10 percent.

Structure—Massive or single grain.

Consistence—Loose to hard, dry; loose to firm, moist.

Identifiable secondary carbonates—Common pendants on undersides of rock fragments. Some pedons have few fine soft masses.

Calcium carbonate equivalent—10 to 35 percent.

Atlanta series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Low.

Landform: Fan aprons.

Parent material: Alluvium derived from limestone with lesser amounts of welded tuff.

Slope range: 2 to 8 percent.

Elevation: 5,900 to 5,950 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-period: 100 to 120 days.

Native plants: Basin wildrye and basin big sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Xeric Haplocalcids

Typical pedon: Atlanta fine sandy loam in an area of map unit 5021, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; moderate thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine and fine interstitial pores; violently effervescent (CaCO₃ equivalent 16 percent); moderately alkaline (pH 8.0); clear smooth boundary.

A2—3 to 10 inches; very pale brown (10YR 7/3) fine sandy loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine, and few medium roots; few very fine and fine interstitial pores; violently effervescent (CaCO₃ equivalent 22 percent); moderately alkaline (pH 8.2); clear smooth boundary.

2Bk—10 to 23 inches; light gray (10YR 7/2) extremely gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; few very fine and fine interstitial pores; common (20%) secondary calcium carbonate coats on rock fragments; some of the carbonate coats are allogenic which is indicated by rocks with carbonate coats on tops and sides with random orientation; 55 percent pebbles and 10 percent cobbles; violently effervescent (CaCO₃ equivalent 30 percent); moderately alkaline (pH 8.4); clear smooth boundary.

3C1—23 to 33 inches; light gray (10YR 7/2) fine sandy loam, light yellowish brown (10YR 6/4) moist; massive; soft, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine, fine and medium interstitial pores; violently effervescent (CaCO₃ equivalent 27 percent); strongly alkaline (pH 8.6); gradual wavy boundary.

3C2—33 to 60 inches; very pale brown (10YR 8/3) fine sandy loam, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine, common fine and few medium roots; few very fine, fine and medium interstitial pores; violently effervescent (CaCO₃ equivalent 23 percent); strongly alkaline (pH 8.6).

Type location: White Pine County, Nevada; 5.1 miles east of Highway 93 and 50 feet south of the Atlanta Road; about 2,000 feet west and 2,500 feet south of the northeast corner of section 7, T.10 N., R.67 E.; USGS Indian Springs Knolls 7.5 minute topographic quadrangle; 38 degrees, 44 minutes, 34 seconds north latitude and 114 degrees, 29 minutes, 55 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry May through October except for 10 to 20 days (cumulative) due to summer convection storms. The soil moisture regime is aridic bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to unconformable 2Bk horizons: 10 to 23 inches.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—Averages 15 to 35 percent, mainly gravel; individual strata range from 0 to 65 percent. Lithology of the fragments is mostly limestone.

A horizons:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—15 to 25 percent.

2Bk horizon:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Clay content—8 to 18 percent.

Rock fragments—45 to 65 percent, mainly gravel.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—20 to 35 percent.

Visible secondary carbonates—15 to 20 percent soft masses, filaments, and coatings on fragments.

3C horizons:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam or sandy loam.

Clay content—8 to 18 percent.

Rock fragments—0 to 5 percent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—15 to 30 percent.

Badena series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium to high.

Landform: Fan remnants.

Parent material: Alluvium derived from quartzite.

Slope range: 2 to 15 percent.

Elevation: 6,250 to 7,350 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Needleandthread, bluebunch wheatgrass, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Badena very cobbly fine sandy loam, in an area of map unit 1280, rangeland. (Colors are for dry soil unless otherwise noted.)

- A—0 to 5 inches; brown (10YR 5/3) very cobbly fine sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine interstitial and vesicular pores; 20 percent pebbles and 15 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.
- Bt1—5 to 10 inches; brown (10YR 5/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; common very fine and fine tubular pores; few faint clay films on faces of peds and lining pores; 20 percent pebbles and 20 percent cobbles; slightly alkaline (pH 7.6); clear smooth boundary.
- Bt2—10 to 21 inches; brown (10YR 5/3) extremely cobbly sandy clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine through medium roots; common very fine and fine tubular pores; common faint clay films on faces of peds and lining pores; 30 percent pebbles, 45 percent cobbles and 5 percent stones; slightly alkaline (pH 7.6); clear wavy boundary.
- Bt3—21 to 25 inches; yellowish brown (10YR 5/4) extremely cobbly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common fine tubular pores; common faint clay films lining pores; 45 percent pebbles, 30 percent cobbles and 10 percent stones; slightly alkaline (pH 7.6); clear wavy boundary.
- C—25 to 60 inches; yellowish brown (10YR 5/4) extremely cobbly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common fine tubular pores; 45 percent pebbles, 30 percent cobbles and 10 percent stones; slightly alkaline (pH 7.6).

Type location: Lincoln County, Nevada; in Cave Valley about 0.7 mile south of Cave Spring and 150 feet west of a gravel road; about 1,800 feet west and 1,800 feet north of the southeast corner of section 21, T.9 N., R.64 E., USGS Shingle Pass SE 7.5 minute topographic quadrangle; 38 degrees, 37 minutes, 15 seconds north latitude and 114 degrees, 47 minutes, 37 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 50 degrees F.

Mollic epipedon thickness: 7 to 16 inches; includes the upper part of the Bt horizon in some pedons. Mollic epipedon is greater than 10 inches thick when the base of the argillic is greater than 30 inches deep.

Depth to base of argillic horizon: 20 to 36 inches.

Depth to sandy-skeletal material: 20 to 36 inches.

Particle size control section:

Clay content—20 to 35 percent.

Rock fragments—60 to 85 percent, dominantly cobbles and stones. Lithology of the fragments is mainly quartzite.

A horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Reaction—Neutral or slightly alkaline

Organic matter content—1 or 2 percent.

Bt horizons:

Hue—10YR or 7.5YR

Value—4 through 6 dry; 3 or 4 moist; value of 3 occurs in the Bt1 horizon.

Chroma—2 through 4, dry or moist.

Texture—Very cobbly loam, extremely cobbly loam, extremely cobbly sandy clay loam, or extremely cobbly clay loam.

Clay films—Few to common, faint to distinct.

Structure—Fine or medium subangular blocky.

Consistence—Slightly hard or hard dry, slightly sticky or moderately sticky and slightly plastic or moderately plastic.

C horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 through 6, dry or moist.

Texture—Extremely cobbly loamy coarse sand, extremely cobbly loamy sand, extremely cobbly coarse sand, or extremely cobbly sandy loam.

Rock fragments—60 to 85 percent.

Consistence—Soft or slightly hard dry.

Bigspring series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Very slow or slow.

Runoff: High.

Landform: Basin-floor remnants.

Parent material: Alluvium over lacustrine deposits derived from limestone and welded tuffs.

Slope range: 2 to 4 percent.

Elevation: 5,550 to 5,650 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 52 degrees F.

Frost-period: 100 to 120 days.

Native plants: Basin wildrye, black greasewood, basin big sagebrush, and greenmolly kochia.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Calcixerolls

Typical pedon: Bigspring gravelly sandy loam in an area of White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 5 inches; brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate thick platy structure; soft, very friable, slightly sticky and nonplastic; many very fine, common fine and few medium roots; many very fine, common fine and few medium interstitial and tubular pores; 15 percent pebbles; slightly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

A2—5 to 12 inches; brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine, fine, and medium roots; common very fine and fine interstitial and tubular pores; 20 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—12 to 35 inches; very pale brown (10YR 7/3) gravelly clay loam, brown (10YR 5/3) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; very hard, extremely firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine and few fine tubular pores; secondary calcium carbonate disseminated throughout and many (20 percent) coarse prominent masses in the matrix; common (10 percent) coarse prominent strongly cemented irregular secondary calcium carbonate nodules; 5 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2Bky1—35 to 46 inches; light gray (10YR 7/2) silty clay, brown (10YR 5/3) moist; strong very coarse subangular blocky structure; very hard, extremely firm, moderately sticky and very plastic; few very fine roots; few very fine tubular pores; common (5 percent) medium prominent irregular masses of secondary calcium carbonate; many (20 percent) fine prominent gypsum threads and very coarse irregular masses; moderately alkaline (pH 8.4); clear smooth boundary.

2Bky2—46 to 58 inches; light brown (7.5YR 6/4) silty clay, brown (7.5YR 5/4) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; very hard, very firm, moderately sticky and very plastic; few very fine roots; many very fine tubular pores; common (5 percent) coarse strongly cemented calcium carbonate nodules; common (5 percent) medium prominent irregular masses of secondary calcium carbonate; moderately alkaline (pH 8.0); clear irregular boundary.

2C—58 to 80 inches; light brown (7.5YR 6/3) clay loam, brown (7.5YR 5/4) moist; massive; soft, friable, slightly sticky and moderately plastic; few very fine roots; few very fine tubular pores; common (2 percent) coarse prominent strongly cemented irregular secondary calcium carbonate nodules; moderately alkaline (pH 8.0)

Type location: White Pine County, Nevada; approximately 2 miles northeast of Bigspring Ranch, 0.2 mile west of the Hamlin Valley Road and 50 feet south of a jeep trail; about 900 feet south and 1,100 feet west of the northeast corner of section 26, T.10 N., R.70 E.; USGS Tweedy Wash 7.5 minute topographic quadrangle; 38 degrees, 42 minutes, 53 seconds north latitude and 114 degrees, 05 minutes, 21 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture—Usually dry; moist in winter and spring, dry May through October except for 10 to 20 days cumulative due to summer convection storms. The soil moisture regime is aridic bordering on xeric.

Soil temperature—52 to 59 degrees F.

Mollic epipedon thickness—7 to 12 inches.

Depth to calcic horizon: 8 to 15 inches.

calcic horizon thickness—15 to 25 inches.

Particle size control section:

Clay content—27 to 35 percent

Rock fragments—Averages 0 to 5 percent.

A horizons:

Organic matter content—1 to 3 percent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent—5 to 15 percent.

Bk horizon:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Textures—Loam, clay loam, subhorizons of sandy loam are in some pedons.

Clay content—25 to 32 percent.

Rock fragments—5 to 20 percent, mainly pebbles and pebble-sized strongly cemented calcium carbonate nodules.

Organic matter content—0.5 to 2 percent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—20 to 30 percent.

2Bky horizons:

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay loam, silty clay, clay or silty clay loam.

Clay content—30 to 45 percent.

Rock fragments—0 to 5 percent, mainly pebbles, mainly pebbles and pebble-sized strongly cemented calcium carbonate nodules.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—2 to 15 percent.

Birchcreek series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Very high.

Landform: Backslope of mountain.

Parent material: Alluvium and colluvium derived from andesite.

Slope range: 15 to 50 percent.

Elevation: 6,200 to 8,000 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 75 to 95 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, antelope bitterbrush, and mountain big sagebrush.

Taxonomic class: Clayey-skeletal, smectitic, frigid Typic Argixerolls

Typical pedon: Birchcreek very cobbly sandy loam in area of map unit 1300, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 5 percent pebbles, 15 percent cobbles, and 5 percent stones.

A—0 to 3 inches; brown (10YR 4/3) very cobbly sandy loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many fine vesicular pores; 20 pebbles; 20 percent cobbles, and 5 percent stones; neutral (pH 7.3); clear smooth boundary.

Bt1—3 to 6 inches; grayish brown (10YR 5/2) very cobbly clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine, fine, and medium roots; common very fine and fine tubular and interstitial pores; common faint clay films on faces of peds and lining pores; 15 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 7.1); clear smooth boundary.

Bt2—6 to 13 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine, and common medium roots; few very fine tubular and interstitial pores; common distinct clay films on faces of peds and lining pores; 15 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.6); gradual wavy boundary.

Bt3—13 to 21 inches; yellowish brown (10YR 5/4) very cobbly clay, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; hard, very firm, moderately sticky and very plastic; few very fine and fine roots; few very fine interstitial pores; many distinct clay films on faces of peds; 25 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.8); abrupt irregular boundary.

R—21 inches; unweathered hard andesite.

Type location: Lincoln County, Nevada; about 1.2 miles south of Big Spring and 20 feet west of dirt road in the Egan Mountain Range; USGS Shingle Pass 7.5 minute topographic quadrangle; 38 degrees, 35 minutes, 05 seconds north latitude and 114 degrees, 54 minutes, 52 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture—Usually moist, dry from summer to fall, moist in late fall through early summer. Xeric moisture regime that borders on aridic

Soil temperature—43 to 46 degrees F.

Mollic epipedon thickness—10 to 18 inches, includes the Bt1 and Bt2 horizons.

Reaction—Neutral or slightly alkaline.

Depth to bedrock—20 to 40 inches.

Particle size control section:

Clay content—40 to 50 percent.

Rock fragments—45 to 60 percent, mainly cobbles and stones.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Clay content—15 to 25 percent.

Organic matter content—1 to 3 percent.
Reaction—Neutral or slightly alkaline.

Bt1 and Bt2 horizons:

Value—4 or 5 dry, 2 or 3 moist.
Chroma—2 through 4 dry, 1 through 3 moist.
Texture—Very cobbly clay loam, very gravelly clay loam, or very stony clay loam.
Clay content—28 to 40 percent.
Rock fragments—25 to 40 percent cobbles and stones; 15 to 40 percent gravel.
Organic matter content—1 or 2 percent.
Reaction—Neutral or slightly alkaline.

Bt3 horizon:

Value—4 or 5 dry, 2 through 4 moist.
Chroma—2 through 6, dry or moist.
Texture—Very cobbly clay, extremely gravelly clay, or very stony clay.
Clay content—40 to 55 percent.
Rock fragments—25 to 40 percent cobbles and stones; 15 to 40 percent gravel.
Reaction—Neutral or slightly alkaline.

Blackcan series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Medium to high.

Landform: Summits and backslopes of fan remnants and ballenas.

Parent material: Alluvium derived from welded tuff and basalt, and minor amounts of quartzite and limestone.

Slope range: 2 to 15 percent.

Elevation: 4,900 to 6,800 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 53 degrees F.

Frost-free period: 110 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplodurids

Typical pedon: Blackcan very gravelly sandy loam, in an area of map unit 2320, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 50 percent pebbles and 10 percent cobbles.

A—0 to 4 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; strong very thick platy structure parting to moderate very thin platy; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine vesicular pores; 30 percent pebbles and 5 percent cobbles; 15 percent calcium carbonate equivalent; violently effervescent; strongly alkaline (pH 8.7); abrupt smooth boundary.

Bk—4 to 7 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine tubular pores; 45 percent pebbles; 20 percent calcium carbonate equivalent; many (20 percent) fine (less than 2 mm) secondary calcium carbonate concretions on the bottom of rock fragments; violently effervescent; strongly alkaline (pH 8.5); abrupt smooth boundary.

Bqk—7 to 14 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and medium roots; few very fine and common fine irregular pores; 45 percent pebbles; 20 percent calcium carbonate equivalent; many (20 percent) fine (less than 2 mm) secondary calcium carbonate and silica concretions around rock fragments;

discontinuous lenses of very coarse (2 to 3 cm), very pale brown (10YR 8/2) indurated material cemented by secondary silica and calcium carbonate; violently effervescent; strongly alkaline (pH 8.5); very abrupt smooth boundary.

Bqkm1—14 to 26 inches; very pale brown (10YR 8/2) cemented material, light gray (10YR 7/2) moist; massive; very rigid; indurated by secondary silica and calcium carbonate; violently effervescent; gradual smooth boundary.

Bqkm2—26 to 36 inches; very pale brown (10YR 8/2) cemented material, light gray (10YR 7/2) moist; moderate thick platy structure; extremely hard, slightly rigid; strongly cemented by secondary silica and calcium carbonate; violently effervescent; gradual smooth boundary.

Bqkm3—36 to 60 inches; very pale brown (10YR 8/2) cemented material, light gray (10YR 7/2) moist; massive; very hard, extremely firm; moderately cemented by secondary silica and calcium carbonate; violently effervescent.

Type location: Lincoln County, Nevada; 10 feet southwest of the jeep trail; 180 feet east and 1,380 feet north of the southwest corner of section 22, T.2 N., R.22 E.; USGS The Bluffs 7.5 minute topographic quadrangle; 37 degrees, 46 minutes, 17 seconds N. latitude and 114 degrees, 38 minutes, 25 seconds W. longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 52 to 55 degrees F.

Depth to duripan: 14 to 20 inches.

Depth to calcic horizon: 2 to 4 inches.

Reaction: Strongly alkaline to very strongly alkaline.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—35 to 60 percent, mostly pebbles, 0 to 10 percent cobbles. Pebbles consist of broken pan fragments, and a mixture of limestone, welded tuff, and quartzite.

A horizon:

Value—4 through 6 dry.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—5 to 15 percent, on the material less than 2mm.

Bk horizon:

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—12 to 18 percent.

Rock fragments—35 to 80 percent.

Texture—Very gravelly sandy loam and extremely gravelly sandy loam.

Calcium carbonate equivalent—10 to 20 percent, on the material less than 2mm.

Effervescence—Strongly effervescent or violently effervescent.

Bqk horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—6 to 12 percent.

Rock fragments—45 to 80 percent.

Calcium carbonate equivalent—15 to 25 percent, on the material less than 2mm.

Effervescence—Strongly effervescent or violently effervescent.

Bqkm horizons:

Value—7 or 8 dry, 7 or 8 moist.

Chroma—1 through 3, dry or moist.

Other features—Some pedons have subhorizons that are indurated by secondary calcium carbonate.

Bobs series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium deived from limestone and dolomite with a component of loess high in volcanic ash.

Slope range: 8 to 30 percent.

Elevation: 6,050 to 7,500 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, Indian ricegrass, and big sagebrush.

Taxonomic class: Loamy, carbonatic, frigid, shallow Petrocalcic Palexerolls

Typical pedon: Bobs very gravelly loam in an area of Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 30 percent pebbles.

A1—0 to 3 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few fine roots; common very fine vesicular pores; 35 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—3 to 14 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine to medium roots; common very fine and fine tubular pores; 25 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bkm—14 inches; very pale brown (10YR 8/2), indurated petrocalcic material, very pale brown (10YR 7/3) moist.

Type location: White Pine County, Nevada; in Steptoe Valley; 1,275 feet north and 350 feet west of the southeast corner of sec. 18 T.12 N., R.64 E.; 38 degrees, 53 minutes, 52 seconds north latitude and 114 degrees, 49 minutes, 4 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in the winter and spring, dry summer and fall; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 14 inches.

Depth to petrocalcic horizon: 10 to 20 inches.

Reaction: Moderately alkaline or strongly alkaline.

Particle size control section:

Clay content—10 to 20 percent.

Rock fragments—15 to 35 percent, mainly pebbles. Lithology of fragments are limestone, dolostone, and detached fragments of petrocalcic horizon.

A1 horizon:

Value—4 or 5 dry, 2 through 4 moist; a moist value of 4 is only in thin A1 horizons and the upper 7 inches when mixed has moist value of 2 or 3

Chroma—1 through 3, dry or moist.

Organic matter content—1 to 3 percent.

Calcium carbonate equivalent—20 to 35 percent in the less than 2 millimeter fraction; 30 to 50 percent in the less than 20 millimeter fraction.

A2 horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Texture—Gravelly loam, gravelly very fine sandy loam, or gravelly silt loam.

Organic matter content—1 or 2 percent.

Calcium carbonate equivalent—35 to 45 percent in the less than 2 millimeter fraction; 40 to 60 percent in the less than 20 millimeter fraction.

Bkm horizon:

Hue—7.5YR or 10YR.

Value—6 through 8 dry, 5 through 7 moist.

Chroma—1 through 4, dry or moist.

Other features—Some pedons have 10 to 35 percent krotovinas 1 to 12 inches in diameter.

Boxspring series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 15 to 50 percent.

Elevation: 4,600 to 4,900 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 54 to 57 degrees F.

Frost-free period: 150 to 180 days.

Native plants: Desert needlegrass and blackbrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Ustic Torriorthents

Typical pedon: Boxspring extremely gravelly loam in an area of Lincoln County, Nevada, South part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 50 percent pebbles and 15 percent cobbles.

A—0 to 3 inches; pale brown (10YR 6/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak thin platy structure parting to moderate very fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial and few very fine tubular pores; 50 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C1—3 to 11 inches; light yellowish brown (10YR 6/4) very gravelly loam, brown (10YR 4/3) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine interstitial and few very fine tubular pores; 40 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C2—11 to 16 inches; very pale brown (10YR 7/3) extremely gravelly loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and moderately plastic; few very fine and fine roots; few very fine interstitial pores; 50 percent pebbles and 20 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

R—16 inches; fractured limestone bedrock.

Type location: Lincoln County, Nevada, approximately 1 mile west of Blue Nose Peak; 37 degrees, 14 minutes, and 13 seconds north latitude; 114 degrees, 19 minutes, and 44 seconds west longitude.

Range in Characteristics:

Soil moisture—Usually dry, moist for short periods in winter and early spring and intermittently moist during the period June through October due to summer convection storms. Aridic soil moisture regime that borders ustic.

Soil temperature—55 to 58 degrees F.

Depth to bedrock—14 to 20 inches

Carbonates—Averages 30 to 60 percent, calcium carbonate equivalent in the less than 20 millimeter fraction.

Particle size control section:

Clay content—10 to 18 percent

Rock fragments—35 to 70 percent, mainly pebbles and cobbles.

A horizon:

Value—5 through 7 dry, 3 through 5 moist.

C horizons:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—10 to 18 percent.

Texture—Very gravelly or very cobbly loam, or extremely gravelly or extremely cobbly loam.

Structure—Weak fine or very fine subangular blocky or massive.

Consistence—Soft or slightly hard.

Reaction—Moderately alkaline or strongly alkaline

Broland series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from volcanic rocks.

Slope range: 2 to 15 percent.

Elevation: 6,350 to 7,200 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, Thurber's needlegrass, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Haploxeralfic Argidurids

Typical pedon: Broland very gravelly loam in an area of Western White Pine County, Area, Nevada, rangeland. The soil surface is partially covered with 60 percent pebbles and 5 percent cobbles.

A—0 to 3 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 3/3) moist; strong thin, medium and thick platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine through coarse vesicular pores; 40 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

Bt—3 to 9 inches; pale brown (10YR 6/3) gravelly clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; many very fine through medium roots; many very fine through medium tubular pores; common faint clay films on faces of pedes and bridging sand grains; 30 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

2Btkq—9 to 16 inches; pale brown (10YR 6/3) extremely gravelly sandy clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine through medium roots; common very fine, fine and medium tubular pores; common faint clay films on faces of

pedes and bridging sand grains; common thin secondary silica and calcium carbonate concretions as coats on bottom of rock fragments; 50 percent pebbles and 10 percent cobbles; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

2Bkq—16 to 19 inches; very pale brown (10YR 7/4) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; moderate very fine, fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine, fine, and medium roots; common very fine, fine, and medium tubular pores; many distinct secondary silica and calcium carbonate concretions as coats on sides and bottoms of rock fragments; 55 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

3Bqkm—19 to 40 inches; very pale brown (10YR 8/2) strongly cemented duripan; discontinuous laminar capping; extremely hard, slightly rigid, brittle; many faint to distinct secondary silica pendants on bottom of rock fragments; clear wavy boundary.

4Ck—40 to 60 inches; very pale brown (10YR 7/4) extremely gravelly coarse sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; very few fine roots; common fine interstitial pores; many distinct secondary calcium carbonate concretions as coats on rock fragments; 65 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2).

Type location: White Pine County, Nevada; about 2,600 feet south and 200 feet west of the northeast corner of section 34, T.20 N., R.60 E.; 39 degrees, 33 minutes, 31 seconds north latitude and 115 degrees, 11 minutes, 54 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June through October. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to strongly cemented duripan: 14 to 20 inches.

Particle size control section:

Clay content—Averages 22 to 35 percent.

Rock fragments—Averages 35 to 50 percent.

Bt horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly clay loam or gravelly sandy clay loam.

Clay content—27 to 40 percent.

2Btkq horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Extremely gravelly sandy clay loam, extremely gravelly clay loam, very gravelly clay loam.

Rock fragments—35 to 70 percent, mainly pebbles.

Clay content—20 to 35 percent.

2Bkq horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4, dry or moist.

Textures—Extremely gravelly sandy loam, very gravelly sandy loam.

Clay content—10 to 20 percent.

Rock fragments—35 to 75 percent, mainly pebbles.

4Ck horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Clay content—1 to 5 percent.

Buzztail series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 30 to 50 percent.

Elevation: 6,250 to 8,400 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 90 to 100 days.

Native plants: Indian ricegrass, bluebunch wheatgrass, muttongrass, and mountain big sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Lithic Haploxerolls

Typical pedon: Buzztail very gravelly fine sandy loam in an area of map unit 4015, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 65 percent pebbles and 10 percent cobbles.

A—0 to 4 inches; grayish brown (10YR 5/2) very gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; strong medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine, and common medium roots; common very fine tubular pores; 40 percent pebbles and 5 percent cobbles; strongly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk1—4 to 11 inches; brown (10YR 5/3) very gravelly 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 fine, and few medium roots; common very fine tubular pores; 40 percent pebbles and 5 percent cobbles; few (1 percent) fine secondary calcium carbonate concretions coating the bottom of rock fragments; violently effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk2—11 to 19 inches; grayish brown (10YR 5/2) very gravelly fine sandy loam; dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine, and few medium roots; common very fine tubular pores; 55 percent pebbles and 3 percent cobbles; common (4 percent) fine secondary calcium carbonate concretions coating the bottom of rock fragments; violently effervescent; slightly alkaline (pH 7.8); very abrupt wavy boundary.

R—19 inches; hard limestone bedrock.

Type location: Lincoln County, Nevada; 240 feet west and 1,990 feet south of the northeast corner of section 21, T.6 N., R.65 E.; USGS Grassy Mountain 7.5 minute topographic quadrangle; 38 degrees, 21 minutes, 58 seconds north latitude and 114 degrees, 40 minutes, 33 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist from late fall through spring, dry mid-July through October except for 10 to 20 day cumulative due to convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 7 to 20 inches.

Depth to bedrock: 14 to 20 inches.

Reaction: Slightly alkaline or moderately alkaline.

Particle size control section:

Clay content—7 to 18 percent.

Rock fragments—35 to 65 percent, 35 to 60 percent pebbles and 0 to 10 percent cobbles.

A horizon:

Value—4 or 5 dry, 3 or 4 moist.

Bk horizons:

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Calcium carbonate equivalent—40 to 50 percent of the less than 20 mm fraction.

Secondary calcium carbonate accumulation—Less than 5 percent.

Cagas series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Mountains and mountain ridges.

Parent material: Residuum and colluvium derived from welded tuff and andesite.

Slope range: 15 to 50 percent.

Elevation: 6,100 to 8,450 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 80 to 100 days.

Native plants: Singleleaf pinyon woodland with and understory of bluebunch wheatgrass, muttongrass, mountain big sagebrush, and Utah serviceberry.

Taxonomic class: Ashy-skeletal, glassy, frigid Vitritorrandic Argixerolls

Typical pedon: Cagas extremely cobbly ashy sandy loam, in an area of map unit 3010, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 20 percent pebbles, 40 percent cobbles, and 10 percent stones.

A1—0 to 3 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 20 percent pebbles, 40 percent cobbles, and 10 percent stones; neutral (pH 6.6); clear smooth boundary.

A2—3 to 5 inches; brown (10YR 5/3) extremely cobbly 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, and common medium roots; many very fine and fine tubular and interstitial pores; 20 percent pebbles, 40 percent cobbles, and 10 percent stones; neutral (pH 6.8); clear smooth boundary.

ABt—5 to 12 inches; brown (10YR 5/3) extremely cobbly ashy sandy loam, dark brown (10YR 3/3) moist; strong fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; many very fine and fine tubular and interstitial pores; few faint clay films on faces of peds; 30 percent pebbles and 30 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt—12 to 19 inches; pale brown (10YR 6/3) extremely cobbly ashy sandy clay loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; many very fine and fine tubular and interstitial pores; few faint clay films on faces of peds; 30 percent pebbles and 30 percent cobbles; neutral (pH 7.0); clear smooth boundary.

C—19 to 27 inches; pale brown (10YR 6/3) extremely cobbly ashy sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine and fine interstitial pores; 20 percent pebbles, 45 percent cobbles, and 2 percent stones; neutral (pH 7.0); abrupt irregular boundary.

2Cr—27 inches; soft, weathered tuff.

Type location: Lincoln County, Nevada; approximately 15 miles northwest of Atlanta, 1,700 feet south and 900 feet east of the northwest corner of section 16 T.9 N., R.67 E.; USGS Indian Springs Knolls 7.5 minute topographic quadrangle; 38 degrees, 38 minutes, 38 seconds north latitude and 114 degrees, 28 minutes, 09 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry in summer and fall and intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. Aridic bordering xeric soil moisture regime.

Soil temperature: 44 to 47 degrees.

Mollic epipedon thickness: 7 to 14 inches, includes all or part of the AB horizon.

Depth to paralithic contact: 20 to 40 inches.

Reaction: Neutral or slightly alkaline.

Minerology: 30 to 50 percent volcanic glass in the 0.02 to 2.0 mm fraction, mainly weathered from the parent material.

Particle size control section:

Clay content—Averages 18 to 30 percent.

Rock fragments—60 to 85 percent, mostly cobbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

AB horizon:

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Sandy loam or loam.

Clay content—10 to 18 percent.

Bt horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy clay loam or loam.

Clay content—20 to 35 percent.

C horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—10 to 18 percent.

Rock fragments—60 to 85 percent, mainly cobbles.

Cath series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 0 to 8 percent.

Elevation: 4,950 to 6,750 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 50 to 55 degrees F.

Frost-free period: 90 to 120 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids

Typical pedon: Cath silt loam in an area of map unit 1150, rangeland. (Colors are for dry soil unless otherwise noted.)

- A—0 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate thick platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; common very fine and fine, and few medium vesicular pores; slightly alkaline (pH 7.4); clear smooth boundary.
- Bt1—3 to 9 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, friable, nonsticky and slightly plastic; common fine roots; many very fine interstitial pores; common faint clay films on the faces of peds; slightly alkaline (pH 7.5); clear smooth boundary.
- Bt2—9 to 13 inches; pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; moderately hard, firm, slightly sticky and moderately plastic; common fine roots; common fine tubular and few fine interstitial pores; many faint clay films on faces of peds, lining pores, and as bridges between sand grains; slightly alkaline (pH 7.6); clear smooth boundary.
- Btk—13 to 21 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine roots; common fine interstitial pores; few faint clay films on faces of peds; secondary calcium carbonate finely disseminated throughout; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.
- 2Btqk—21 to 33 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; massive; hard, firm and brittle, slightly sticky and slightly plastic; common fine roots; many fine interstitial pores; few faint clay films coating faces of peds; few silica and secondary carbonate coats on bottom of rock fragments; 35 percent pebbles; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary.
- 2Bqk—33 to 60 inches; very pale brown (10YR 7/4) and light yellowish brown (10YR 6/4) stratified very gravelly loamy very fine sand and very gravelly loam, yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/4) moist; massive; hard, firm and brittle, slightly sticky and slightly plastic; few fine roots; few very fine and few interstitial and tubular pores; few silica and secondary carbonate coats on bottom of rock fragments and few thin secondary calcium carbonate threads; 35 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5).

Type location: Lincoln County, Nevada; about 2 miles east of US Highway 93 and 0.25 mile north of Pony Springs Road; USGS Pony Springs 7.5 minute topographic quadrangle; 38 degrees, 19 minutes, 45 seconds north latitude and 114 degrees, 34 minutes, 24 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer and fall except for 10 to 20 days between July and October due to convection storms; Aridic moisture regime that borders on xeric.

Soil temperature: 53 to 58 degrees F.

Depth to base of argillic: 20 to 30 inches

Depth to horizon with firm, brittle matrix: 20 to 30 inches.

Particle size control section:

Clay content—25 to 35 percent

Rock fragments—0 to 15 percent, mainly pebbles.

A horizon:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Reaction—Neutral through moderately alkaline.

Bt horizons:

Hue—5YR through 10YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 through 5, dry or moist.

Texture—Clay loam or sandy clay loam.

Clay content—25 to 35 percent.

Rock fragments—0 to 15 percent.
 Structure—Weak or moderate medium to coarse prismatic or subangular blocky.
 Consistence—Hard or slightly hard dry, very friable or friable moist.
 Reaction—Slightly alkaline or moderately alkaline.

Btk horizon:

Hue—5YR through 10YR.
 Value—5 or 6 dry, 3 through 5 moist.
 Chroma—4 or 5, dry or moist.
 Texture—Clay loam, sandy clay loam, gravelly clay loam or gravelly sandy clay loam.
 Clay content—25 to 35 percent.
 Rock fragments—0 to 25 percent.
 Structure—Weak to strong medium to coarse prismatic, or subangular blocky.
 Consistence—Slightly hard or hard dry, very friable through firm moist, moderately sticky or very sticky, moderately plastic or very plastic wet.

2Btqk horizon:

Hue—5YR through 10YR.
 Value—5 through 7 dry, 3 through 5 moist.
 Chroma—2 through 4, dry or moist.
 Clay content—20 to 30 percent.
 Structure—Massive or subangular blocky.
 Rock fragment—35 to 60 percent gravel.
 Consistence—Soft to hard dry, very friable to firm and brittle moist.
 Reaction—Moderately alkaline or strongly alkaline.
 Calcium carbonate equivalent—10 to 15 percent.

2Bqk horizon:

Hue—5YR through 10YR.
 Value—5 through 8 dry, 4 through 6 moist.
 Chroma—1 through 4, dry or moist.
 Texture—Stratified very gravelly loamy very fine sand to very gravelly loam.
 Clay content—5 to 10 percent.
 Rock fragments—35 to 60 percent gravel.
 Rupture resistance—Hard or very hard dry; firm and brittle moist.
 Calcium carbonate equivalent—10 to 20 percent.

Cavehill series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Backslopes of mountain.

Parent material: Residuum and colluvium derived from limestone, dolomite and loess.

Slope range: 15 to 75 percent.

Elevation: 5,800 to 9,800 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 41 to 45 degrees F.

Frost-free period: 60 to 100 days.

Native plants: Singleleaf pinyon and Utah juniper woodland, with an understory of bluebunch wheatgrass, Thurber's needlegrass, and mountain big sagebrush. Other areas may also include curleaf mountainmahogany and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Typic Calcixerolls

Typical pedon: Cavehill gravelly loam in an area of map unit 1190, woodland. (Colors are for dry soil unless otherwise noted. The soil surface is partially covered with approximately 60 percent pebbles and 5 percent cobbles

A1—0 to 3 inches; brown (10YR 4/3) gravelly loam, very dark brown (10YR 2/2) moist; weak coarse platy structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine and fine tubular and interstitial pores; 20 percent pebbles and 5 percent cobbles; violently effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

A2—3 to 12 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and fine interstitial and tubular pores; 25 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk—12 to 27 inches; yellowish brown (10YR 5/4) very cobbly loam, dark yellowish brown (10YR 3/4) moist; strong coarse subangular blocky structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; few very fine and fine interstitial and tubular pores; distinct secondary calcium carbonate concretions around rock fragments; 30 percent pebbles and 20 percent cobbles; violently effervescent; strongly alkaline (pH 8.7); abrupt wavy boundary.

R—27 inches; hard limestone.

Type location: Lincoln County, Nevada; 1,600 feet north and 1,350 feet east of the southwest corner of section 20, T.8 N., R.63 E.; USGS Shingle Pass 7.5 minute topographic quadrangle; 38 degrees, 31 minutes, 57 seconds north latitude and 114 degrees, 55 minutes, 50 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid-July through mid-October. Xeric bordering on aridic soil moisture regime.

Soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 12 to 20 inches.

Depth to bedrock: 20 to 40 inches.

Reaction: Moderately alkaline or strongly alkaline.

Carbonates: Averages 40 to 60 percent calcium carbonate equivalent with the upper part ranging from 15 to 50 percent and the lower part ranging from 50 to 80 percent.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent, mainly pebbles and cobbles, with stones common in some pedons.

A horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Effervescence—Effervescent after mixing to a depth of 7 inches in horizons above 10 inches and strongly or violently effervescent below 10 inches. Some pedons are violently effervescent to the soil surface.

Bk horizon:

Value—5 through 8 dry, 3 through 7 moist.

Chroma—2 through 4, dry or moist.

Textures—Very gravelly silt loam, very gravelly loam, very cobbly loam or very cobbly silt loam.

Structure—Subangular blocky or massive.

Rock fragments—Averages 35 to 60 percent. Some pedons have thin subhorizons directly above the bedrock that are gravelly loam with 25 to 35 percent pebbles and cobbles.

Other features—Weak cementation by secondary calcium carbonate in most pedons and distinct to prominent secondary calcium carbonate concretions around and pendants on the bottom of rock fragments.

Reaction—Moderately alkaline or strongly alkaline.

Chen series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Very slow.

Runoff: Very high.

Landform: Backslope of mountain.

Parent material: Residuum and colluvium derived from shale and quartzite.

Slope range: 30 to 75 percent.

Elevation: 6,600 to 9,600 feet.

Mean annual precipitation: 10 to 16 inches.

Mean annual air temperature: 41 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, Sandberg's bluegrass, and low sagebrush.

Taxonomic class: Clayey-skeletal, smectitic, frigid Lithic Argixerolls

Typical pedon: Chen very cobbly loam in an area of map unit 1701, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with approximately 40 percent pebbles and 20 percent cobbles.

A—0 to 3 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; many very fine and common fine interstitial pores; 30 percent pebbles and 20 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt1—3 to 7 inches; brown (10YR 5/3) extremely gravelly clay, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; moderately hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; few very fine and fine interstitial pores; few distinct clay films on faces of pedis; 40 percent pebbles and 20 percent cobbles; neutral (pH 7.0); gradual wavy boundary.

Bt2—7 to 12 inches; yellowish brown (10YR 5/4) extremely gravelly clay, brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine and fine interstitial pores; few distinct clay films on faces of pedis; 50 percent pebbles and 15 percent cobbles; neutral (pH 7.3); very abrupt wavy boundary.

R—12 inches; hard quartzite.

Type location: Lincoln County, Nevada; about 1 mile southeast of Patterson Peak and 600 feet east of jeep trail, USGS Milk Ranch Spring 7.5 minute topographic quadrangle; 38 degrees, 36 minutes, 28 seconds north latitude and 114 degrees, 42 minutes, 50 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry summer and fall; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 7 to 17 inches; includes the Bt1 horizon or both the Bt1 and Bt2 horizons.

Depth to base of argillic horizon: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches to a lithic contact.

Reaction: Slightly acid through slightly alkaline.

Particle size control section:

Clay content—Averages 38 to 55 percent.

Rock fragments—Averages 35 to 65 percent, mainly pebbles and cobbles. Lithology of fragments varies by area.

Other features—An abrupt horizon boundary is normally present at the base of the A (or A2) horizon and the Bt (or Bt1) horizon accompanied by an abrupt increase in clay content of at least 15 percent.

A horizons:

Value—4 through 6 dry, 2 or 3 moist. A dry value of 6 is only in thin A1 horizons in some pedons and the upper 7 inches when mixed has a dry value of 5.

Chroma—2 or 3, dry or moist.
 Clay content—10 to 27 percent.
 Organic matter content—2 or 3 percent.

Bt horizons:

Hue—7.5YR or 10YR; some pedons have hue of 5YR in areas of red parent materials.
 Value—4 or 5 dry, 3 or 4 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Very gravelly clay, extremely gravelly clay, very cobbly clay, very cobbly clay loam, extremely cobbly clay loam, or extremely cobbly clay.
 Clay content—38 to 55 percent.
 Structure—Weak to strong, fine or medium angular or subangular blocky or platy.
 Consistence—Friable or firm, moist, moderately sticky or very sticky and moderately plastic or very plastic, wet.
 Rock fragments—40 to 65 percent, normally increasing with depth.
 Clay films—Distinct and prominent clay films on faces of ped.
 Organic matter content—0.5 to 2 percent.

Chubard series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium to very high.

Landform: Backslopes and summits of hills, mountains, and rock pediments.

Parent material: Residuum and colluvium derived from welded tuff with a component of volcanic ash.

Slope range: 2 to 75 percent.

Elevation: 4,350 to 8,150 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, desert needlegrass, black sagebrush and Stansbury's cliffrose. Other areas may also support needleandthread, winterfat, and Utah juniper.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Chubard extremely gravelly sandy loam in an area of map unit 1940, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 50 percent pebbles, 15 percent cobbles, and 15 percent stones. Lithology of the fragments is welded tuff.

A—0 to 4 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and fine vesicular pores; 60 percent pebbles, 5 percent cobbles and 2 percent stones; slightly alkaline (pH 7.5); clear smooth boundary.

Bt—4 to 7 inches; pale brown (10YR 6/3) extremely gravelly sandy 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 medium, and common fine roots; common very fine and few fine interstitial pores; many faint clay films on faces of ped; 60 percent pebbles and 5 percent cobbles; very slightly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Btk—7 to 10 inches; pale brown (10YR 6/3) extremely gravelly clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine, fine and medium roots; few very fine and fine interstitial pores; common distinct clay films on faces of ped; finely disseminated secondary calcium carbonate throughout; 60 percent pebbles and 5 percent cobbles; strongly effervescent; slightly alkaline (pH 7.5); abrupt wavy boundary.

R—10 inches; slightly fractured, hard welded tuff; few very fine and fine roots in cracks.

Type location: Lincoln County, Nevada; about 10 miles north of state Highway 93 and 1.5 miles west of Wheatgrass spring. About 1,400 feet north and 2,000 feet west of southeast corner of section 20, T.2 S., R.63 E.; USGS Wheatgrass Spring 7.5 minute topographic quadrangle; 37 degrees, 45 minutes, 31 seconds north latitude and 114 degrees, 56 minutes, 25 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring months, dry in summer and fall, intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 6 to 14 inches to a lithic contact.

Volcanic glass: 15 to 30 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—Averages 18 to 27 percent.

Rock fragments—50 to 75 percent, mainly as pebbles and cobbles. Some pedons have up to 25 percent flagstones.

Lithology of fragments is welded tuff.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Noneffervescent to very slightly effervescent.

Reaction—Neutral to slightly alkaline.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy clay loam, clay loam, or coarse sandy loam.

Clay content—18 to 30 percent.

Rock fragments—60 to 80 percent, mainly as pebbles and cobbles.

Structure—Moderate or strong, fine or medium subangular blocky.

Effervescence—Noneffervescent to very slightly effervescent.

Reaction—Neutral or slightly alkaline.

Btk horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy clay loam, coarse sandy loam or clay loam.

Clay content—18 to 32 percent.

Rock fragments—60 to 80 percent, mainly as pebbles and cobbles.

Effervescence—Slightly effervescent to violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Other features—In some pedons secondary calcium carbonate pendants are on bottom of rock fragments.

Chuckmill series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 2 to 15 percent.

Elevation: 5,650 to 7,050 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 52 degrees F.

Frost-free period: 90 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush. Other areas may also support scattered Utah juniper.

Taxonomic class: Ashy, glassy, mesic, shallow Vitrixerandic Argidurids

Typical pedon: Chuckmill gravelly ashy loam, in an area of map unit 1040, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent gravel. Lithology of the rock fragments is welded tuff.

A—0 to 2 inches; brown (10YR 5/3) gravelly ashy loam, brown (10YR 4/3) moist; moderate thick platy structure; soft, very friable, slightly sticky and slightly plastic; common fine roots; common fine vesicular pores; 30 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

Bt1—2 to 4 inches; brown (10YR 4/3) gravelly ashy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; common fine and medium vesicular and few fine interstitial pores; 25 percent pebbles; common distinct clay films bridging sand grains; neutral (pH 7.2); abrupt smooth boundary.

Bt2—4 to 10 inches; brown (7.5YR 5/4) gravelly ashy clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, common fine and medium, and few coarse roots; few fine tubular pores; 20 percent pebbles; common distinct clay films bridging sand grains; slightly alkaline (pH 7.4); abrupt wavy boundary.

Btqk—10 to 14 inches; light brown (7.5YR 6/4) very gravelly ashy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common fine and medium roots; few fine tubular pores; 40 percent pebbles and 5 percent cobbles; common faint clay films bridging sand grains; 5 percent durinodes; many (30 percent) secondary silica and secondary calcium carbonate pendants on bottom of rock fragments; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bqkm1—14 to 16 inches; very pale brown (10YR 7/3) cemented material, yellowish brown (10YR 5/4) moist; very rigid; indurated; violently effervescent; moderately alkaline (pH 8.4), abrupt wavy boundary.

Bqkm2—16 to 60 inches; very pale brown (10YR 7/3) cemented material, yellowish brown (10YR 5/4) moist; extremely hard, slightly rigid; strongly cemented; violently effervescent; strongly alkaline (pH 8.5).

Type location: Lincoln County, Nevada; about 10 feet south of the jeep trail, 0.33 mile east of Miller Creek; 2,570 feet north and 2,510 feet west of the southeast corner of section 19, T.6 N., R.70 E.; USGS Miller Canyon 7.5 minute topographic quadrangle; 38 degrees, 21 minutes, 57 seconds north latitude and 114 degrees, 10 minutes, 00 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July and September due to convection storms. Soil moisture regime is aridic bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to duripan: 10 to 14 inches.

Duripan thickness: 30 to 50 inches.

Mineralogy: 30 to 50 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent, mainly pebbles. Lithology of the fragments is mainly welded tuff.

A horizon:

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Ashy loam, or ashy sandy clay loam, subhorizons of ashy clay loam are in the lower part of some pedons.

Clay content—Averages 18 to 27 percent.

Rock fragments—15 to 35 percent, mainly pebbles.

Reaction—Neutral through strongly alkaline.

Btqk horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Ashy clay loam, or ashy sandy clay loam.

Clay content—27 to 35 percent.

Rock fragments—15 to 45 percent, mainly pebbles.

Consistence—Slightly hard or hard, dry, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Reaction—Moderately alkaline to very strongly alkaline.

Durinodes—5 to 15 percent, very weakly to moderately cemented.

Calcium carbonate equivalent—5 to 15 percent.

Bqkm horizons:

Value—7 or 8 dry, 5 through 7, moist.

Chroma—2 through 4, dry or moist.

Cementation—Indurated duripan, with very strongly and strongly cemented laminae.

Chuckridge series

Depth class: Very shallow and shallow and over a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium and high.

Landform: Fan remnants.

Parent material: Alluvium derived from rhyolite and basalt.

Slope range: 0 to 30 percent.

Elevation: 4,250 to 6,750 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 50 to 54 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Xeric Argidurids

Typical pedon: Chuckridge gravelly sandy clay loam in an area of map unit 1731, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with about 30 percent gravel. Lithology of the rock fragments is welded tuff.

A—0 to 2 inches; pale brown (10YR 6/3) gravelly sandy clay loam, brown (10YR 4/3) moist; moderate medium platy structure parting to strong fine and medium granular; soft, friable, moderately sticky and slightly plastic; common very fine and few fine roots; common very fine interstitial pores; 20 percent pebbles; strongly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Bt—2 to 6 inches; light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine, and medium, and common coarse and very coarse roots; many very fine and fine interstitial and tubular pores; 20 percent pebbles; strongly effervescent; common faint clay films on faces of peds and bridging sand grains; moderately alkaline (pH 8.1); clear smooth boundary.

Btqk—6 to 11 inches; very pale brown (10YR 8/2) gravelly loam, very pale brown (10YR 7/3) moist; strong medium platy structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, and few fine and medium roots; common very fine and few fine interstitial and tubular pores; 20 percent pebbles, common faint clay films bridging sand grains; many (40 percent) moderately cemented secondary silica and calcium carbonate concretions as weathered duripan fragments; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm1—11 to 19 inches; cemented material; very rigid; indurated; violently effervescent; very strongly alkaline (pH 9.1).

Bqkm2—19 to 60 inches; cemented material; slightly rigid and rigid; strongly cemented to very strongly cemented; violently effervescent; very strongly alkaline (pH 9.1).

Type location: Lincoln County, Nevada; 10 feet northeast of the dirt road, Spring Valley; 2,130 feet east and 1,350 feet north of the southwest corner of section 21, T. 8 N., R. 68 E.; USGS Wells Summit 7.5 minute topographic quadrangle; 38 degrees, 32 minutes, 11 seconds north latitude and 114 degrees, 21 minutes, 08 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall except for 10 to 20 cumulative days between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to duripan: 7 to 14 inches.

Effervescence: Noneffervescent or slightly effervescent in the upper part, strongly effervescent or violently effervescent in the lower part.

Particle size control section:

Clay content—22 to 32 percent.

Rock fragments—15 to 35 percent, dominantly pebbles.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Bt and Btqk horizons:

Hue—10YR or 7.5YR.

Value—5 through 8 dry, 4 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly loam, gravelly clay loam, or gravelly sandy clay loam.

Clay content—25 to 35 percent.

Rock fragments—15 to 35 percent, predominantly pebbles and weathered duripan fragments.

Structure—Strong or moderate subangular blocky or platy.

Consistence—Soft, hard or hard dry, slightly sticky or moderately sticky and slightly plastic or moderately plastic wet.

Reaction—Slightly alkaline to strongly alkaline.

Bqkm horizons:

Cementation—Indurated duripan with 1/16 to 1/8 inch silica laminae. The lower portion of the duripan is strongly cemented with discontinuous silica laminae coating and bridging rock fragments.

Chuffa series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium.

Landform: Lake plain, fan skirt, and basin floor.

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 5,900 to 6,150 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Basin wildrye, bottlebrush squirreltail, big sagebrush, black greasewood, and greenmolly kochia.

Taxonomic class: Fine-silty, mixed, superactive, mesic Xeric Haplocambids

Typical pedon: Chuffa silt loam in an area of map unit 2010, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; light gray (10YR 7/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate thick platy structure parting to moderate very fine subangular blocky; slightly hard, very friable, moderately sticky and slightly plastic; few very fine roots; many very fine vesicular pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bw—3 to 13 inches; very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; soft, very friable, moderately sticky and slightly plastic; many very fine through coarse roots; common fine tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C1—13 to 23 inches; light gray (2.5Y 7/2) silty clay loam, grayish brown (2.5Y 5/2) moist; strong medium and coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine through coarse roots; few fine and medium tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C2—23 to 37 inches; light gray (5Y 7/2) silty clay loam, light olive gray (5Y 6/2) moist; moderate medium prismatic structure parting to strong very fine angular blocky; hard, friable, moderately sticky and moderately plastic; common fine and medium roots; common fine and medium tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C3—37 to 50 inches; light gray (5Y 7/2) silty clay loam, light olive gray (5Y 6/2) moist; weak medium prismatic structure parting to moderate fine angular blocky; soft, friable, moderately sticky and moderately plastic; few fine roots; common fine tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C4—50 to 60 inches; light gray (5Y 7/2) silty clay loam, light olive gray (5Y 6/2) moist; massive; soft, friable, moderately sticky and moderately plastic; few fine roots; common fine tubular pores; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada, approximately 10 miles southeast of Geyser Ranch in Lake Valley; 1,900 feet north and 1,500 feet east of the southwest corner of section 22, T. 7 N., R. 6 E.; USGS Mustang Well 7.5 minute topographic quadrangle; 38 degrees, 27 minutes, 06 seconds north latitude and 114 degrees, 33 minutes, 37 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, and intermittently moist for 10 to 20 days cumulative from July through September due to summer convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Depth to lacustrine sediments: 10 to 16 inches.

Particle size control section:

Clay content—18 to 30 percent.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Salinity—1 to 4 millimhos/cm.

SAR—1 to 5.

Bw horizon:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Silt loam, loam or silty clay loam.

Salinity—1 to 8 millimhos/cm.

SAR—Less than 12.

2C horizons:

Hue—2.5Y or 5Y.

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 or 3, dry or moist.

Texture—Silt loam or silty clay loam.

Structure—Prismatic parting to angular blocky, subangular blocky or massive.

Salinity—1 to 8 millimhos/cm.

SAR—Less than 12.

Other features—Some pedons contain relict redoximorphic concentrations.

Cliffdown series

Depth class: Very deep.

Drainage class: Somewhat excessively.

Permeability: Moderately rapid.

Runoff: Very low or low.

Landform: Fan remnants, fan skirts, and inset fans.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 0 to 15 percent.

Elevation: 4,600 to 6,100 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 52 to 54 degrees F.

Frost-free period: 130 to 150 days.

Native plants: Indian ricegrass, winterfat, and bud sagebrush. Other areas may support sand dropseed and fourwing saltbush.

Taxonomic class: Loamy-skeletal, mixed, superactive, calcareous, mesic Typic Torriorthents

Typical pedon: Cliffdown very gravelly sandy loam in an area of map unit 1033, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure parting to weak fine subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine and few fine interstitial pores; 35 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

- C1—4 to 13 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; common very fine and few fine tubular and interstitial pores; 30 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.
- C2—13 to 25 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine and few fine interstitial pores; 30 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.
- C3—25 to 60 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 40 percent pebbles and 10 percent cobbles; violently effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

Type location: Lincoln County, Nevada; about 2,000 feet south and 1,000 feet east of the northwest corner of section 33, T.2 N., R.59 E.; USGS Coal Valley Reservoir 7.5 minute topographic quadrangle; 37 degrees, 59 minutes, 40 seconds north latitude and 115 degrees, 21 minutes, 35 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and September following convection storms. Typic aridic soil moisture regime.

Mean annual soil temperature: 53 to 59 degrees F.

Reaction: Moderately alkaline or strongly alkaline.

Effervescence: Slightly effervescent to violently effervescent.

Calcium carbonate equivalent: 15 to 40 percent in the less than 2 millimeter fraction.

Other features: Some pedons have thin Bk horizons with few carbonate coats on pebbles.

Particle size control section:

Clay content—5 to 18 percent.

Rock fragments—Averages 35 to 50 percent. Lithology of fragments are rocks of mixed origin and include limestone, tuff, and quartzite.

A horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

C horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Gravelly sandy loam, very gravelly sandy loam and very gravelly fine sandy loam.

Consistence—Soft or slightly hard dry, nonsticky or slightly sticky and nonplastic or slightly plastic wet.

Colval series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Negligible to low.

Landform: Basin floors.

Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone.

Slope range: 0 to 2 percent.

Elevation: 4,500 to 5,650 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 55 to 57 degrees F.

Frost-free period: 120 to 160 days.

Native plants: Indian ricegrass, bottlebrush squirreltail, Bonneville saltbush, shadscale, greenmolly kochia, and winterfat.

Taxonomic class: Fine-silty, mixed, superactive, mesic Durinodic Calciargids

Typical pedon: Colval silt loam in an area of map unit 1085, rangeland. (Colors are for dry soil unless otherwise noted.)
The surface is covered with approximately 20 percent cyanobacteria and 10 percent lichens

A—0 to 5 inches; very pale brown (10YR 8/3) silt loam, yellowish brown (10YR 5/4) moist; strong coarse subangular blocky structure parting to moderate thick platy; slightly hard, firm, very sticky and moderately plastic; few very fine, fine and medium roots; common fine and medium vesicular pores; calcium carbonate equivalent is 18 percent; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Btk—5 to 11 inches; very pale brown (10YR 7/4) silty clay loam, yellowish brown (10YR 5/4) moist; strong medium subangular blocky structure parting to moderate thin platy; hard, firm, very sticky and moderately plastic; common very fine and few fine and medium roots; common fine interstitial and tubular pores; common faint clay films on faces of peds; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 23 percent; violently effervescent; very strongly alkaline (pH 9.1); clear smooth boundary.

Btkq—11 to 23 inches; very pale brown (10YR 7/4) silty clay loam, yellowish brown (10YR 5/4) moist; strong medium subangular blocky structure parting to moderate thick platy; hard, firm, moderately sticky and slightly plastic; few very fine, fine and medium roots; few fine tubular pores; 30 percent durinodes 2 to 8 millimeters in diameter; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 25 percent; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2Bk1—23 to 36 inches; very pale brown (10YR 8/2) silt loam, light brownish gray (10YR 6/2) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common fine tubular pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 27 percent; strongly effervescent; strongly alkaline (pH 8.7); gradual diffuse boundary.

2Bk2—36 to 60 inches; very pale brown (10YR 8/2) sandy clay loam, light brownish gray (10YR 6/2) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 32 percent; violently effervescent; strongly alkaline (pH 8.7).

Type location: Lincoln County, Nevada; approximately 1.5 miles east of Murphy Gap Reservoir and 50 feet south of dirt road; about 1,860 feet south and 810 feet east of the northwest corner of section 17, T.1 S., R.60 E.; USGS Murphy Gap SE 7.5 minute topographic quadrangle; 37 degrees, 51 minutes, 45 seconds north latitude and 115 degrees, 16 minutes, 42 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative from July through September due to summer convection storms. Typic aridic soil moisture regime.

Mean annual soil temperature: 57 to 59 degrees F.

Depth to argillic horizon: 2 to 5 inches.

Thickness of the argillic horizon: 10 to 25 inches.

Depth to calcic horizon: 2 to 5 inches.

Particle size control section:

Clay content—27 to 35 percent.

A horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 7 moist.

Chroma—1 through 4, dry or moist.

Btk horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Textures—Silty clay loam, silt loam, or clay loam.

Clay content—20 to 35 percent.
 Calcium carbonate equivalent—20 to 30 percent.
 Effervescence—Slightly effervescent to violently effervescent.
 Reaction—Moderately alkaline to very strongly alkaline.

Btkq horizon:

Hue—10YR or 2.5Y.
 Value—6 or 7 dry, 5 or 6 moist.
 Chroma—2 through 4, dry or moist.
 Textures—Silty clay loam.
 Clay content—27 to 35 percent.
 Calcium carbonate equivalent—25 to 40 percent.
 Durinodes—15 to 60 percent.
 Effervescence—Strongly effervescent to violently effervescent.
 Reaction—Moderately alkaline to very strongly alkaline.

2Bk horizons:

Hue—10YR or 2.5Y.
 Value—6 through 8 dry, 4 through 6 moist.
 Chroma—1 through 3, dry or moist.
 Textures—Silty clay loam, sandy clay loam or silt loam.
 Clay content—25 to 35 percent.
 Calcium carbonate equivalent—20 to 35 percent.
 Effervescence—Strongly effervescent to violently effervescent.
 Reaction—Strongly alkaline or very strongly alkaline.

Cowgil series

Depth class: Very deep.
Drainage class: Well drained.
Permeability: Moderately slow.
Runoff: Medium or high.
Landform: Fan remnants.
Parent material: Alluvium derived from quartzite, shale, and dolomite.
Slope range: 2 to 8 percent.
Elevation: 5,900 to 6,550 feet.
Mean annual precipitation: 8 to 10 inches.
Mean annual air temperature: 46 to 50 degrees F.
Frost-free period: 100 to 120 days.
Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Xeric Haplargids

Typical pedon: Cowgil very gravelly sandy loam in an area of Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 40 percent pebbles, 5 percent cobbles and stones.

A—0 to 4 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark brown (10YR 3/3) moist; moderate very thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common fine tubular pores; 35 percent pebbles, 5 percent cobbles, and 1 percent stones; slightly alkaline (pH 7.8); abrupt smooth boundary.
 Bt1—4 to 13 inches; brown (10YR 5/3) very 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,

fine, medium and coarse roots; common very fine tubular pores; common faint clay films bridging sand grains and lining pores; 35 percent pebbles; moderately alkaline (pH 7.9); clear wavy boundary.

Bt2—13 to 21 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, few medium roots; common very fine tubular pores; common faint clay films bridging sand grains and on faces of peds; 60 percent pebbles and 10 percent cobbles; moderately alkaline (pH 8.2); gradual wavy boundary.

2Ck1—21 to 35 inches; light yellowish brown (10YR 6/4) extremely cobbly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; few fine weakly cemented secondary calcium carbonate masses throughout horizon; distinct secondary calcium carbonate concretions around rock fragments; 45 percent pebbles and 25 percent cobbles; strongly effervescent; strongly alkaline (pH 8.8); gradual wavy boundary.

2Ck2—35 to 61 inches; yellowish brown (10YR 5/4) very gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; few fine tubular pores; distinct secondary calcium carbonate concretions on bottom of rock fragments; 40 percent pebbles and 15 percent cobbles; strongly effervescent; strongly alkaline (pH 8.8).

Type location: White Pine County, Nevada; approximately 10 miles north of the intersection of Highway 50 and Nevada Route 892; about 300 feet south and 200 feet east of the northwest corner of section 27, T.20 N., R.55 E.; USGS Red Spring 7.5 minute topographic quadrangle; 40 degrees, 34 minutes, 30 seconds west longitude and 115 degrees, 46 minutes, 10 seconds north latitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, but moist in winter and spring, dry summer and fall. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 53 degrees F.

Combined thickness of A and Bt horizons: 20 to 30 inches.

Particle size control section:

Clay content—20 to 35 percent.

Rock fragments—35 to 60 percent, mostly pebbles, but includes cobbles and stones.

A horizon:

Value—5 through 7 dry; 3 through 5 moist.

Chroma—2 through 4 dry, 2 or 3 moist.

Reaction—Slightly alkaline or moderately alkaline.

Bt horizons:

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly or very gravelly sandy clay loam in the upper subhorizon and very gravelly or extremely gravelly sandy clay loam in the lower subhorizons. Some pedons have subhorizons of very gravelly loam or very gravelly clay loam.

Structure—Very fine through medium subangular blocky, prismatic, granular or is massive in lower subhorizon.

Clay films—Few to common.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent in the lower subhorizon.

2Ck horizons:

Value—5 through 8 dry, 4 through 7 moist.

Chroma—2 through 4 dry, 3 through 5 moist.

Texture (< 2mm fraction)—Coarse sand, loamy sand, or sand.

Clay content—2 to 10 percent.

Rock fragments—45 to 70 percent, pebbles and cobbles.

Reaction—Slightly alkaline through strongly alkaline.

Effervescence—Slightly effervescent through strongly effervescent.

Calcium carbonate equivalent—0 to 3 percent.

Other features—Some pedons have secondary silica or secondary calcium carbonate coats on rock fragments. Some pedons have few weakly cemented secondary calcium carbonate masses on rock fragments.

Crestline series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very low.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 0 to 4 percent.

Elevation: 5,900 to 6,400 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, needleandthread, bottlebrush squirreltail and Wyoming big sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Xeric Haplocalcids

Typical pedon: Crestline fine sandy loam in an area of map unit 2060, rangeland. (Colors are for dry soil unless otherwise stated.)

A—0 to 5 inches; very pale brown (10YR 7/3) fine sandy loam, yellowish brown (10YR 5/4) moist; strong very thick platy structure parting to moderate very coarse subangular blocky; hard, firm, moderately sticky and slightly plastic; few fine roots; few fine tubular pores; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—5 to 10 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; few fine roots; few fine tubular pores; moderately alkaline (pH 8.1); clear smooth boundary.

Bk1—10 to 35 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; moderately hard, firm, slightly sticky and slightly plastic; few fine roots; few fine tubular pores; common (5 percent) secondary calcium carbonate concretions on bottom of rock fragments and many (30 percent) threads throughout lower part of horizon; strongly effervescent; 15 percent pebbles; strongly alkaline (pH 9.0); clear smooth boundary.

Bk2—35 to 51 inches; very pale brown (10YR 7/4) very gravelly loamy sand, brown (10YR 4/3) moist; moderate medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable; nonsticky and nonplastic; few very fine roots; few very fine and fine irregular pores; common (10 percent) secondary calcium carbonate concretions around rock fragments; strongly effervescent; 35 percent pebbles; very strongly alkaline (pH 9.3).

Ck—51 to 60 inches; pale brown (10YR 6/3) very gravelly loamy sand, brown (10YR 4/3) moist; single grain; loose; nonsticky and nonplastic; few very fine roots; few very fine and fine irregular pores; common (10 percent) secondary calcium carbonate concretions around rock fragments; strongly effervescent; 55 percent pebbles; strongly alkaline (pH 9.0).

Type location: Lincoln County, Nevada; 100 feet north and 100 feet east of the southwest corner of section 18, T.7 N., R.67 E.; USGS Mustang Well 7.5 minute topographic quadrangle; 38 degrees, 27 minutes, 37 seconds north latitude and 114 degrees, 30 minutes, 26 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soils are usually dry. In more than 7 out of 10 years they are continually moist in all parts of the moisture control section for 60 to 75 days out of the 120 days following the winter solstice and are dry for 60 to 80 consecutive days in all parts of the moisture control section during the summer. The soil moisture regime is aridic bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Summer soil temperature: 60 to 70 degrees F.

Depth to calcic horizon: 10 to 20 inches.

Control section:

Clay content—8 to 20 percent.

Rock fragments—15 to 35 percent, mainly gravel.

A horizon:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 3 through 6 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent—0 to 5 percent.

Reaction—Slightly alkaline to strongly alkaline.

Bw horizon:

Hue—10YR to 7.5YR.

Value—5 through 7 dry, and 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Textures—Fine sandy loam, sandy loam, or loam.

Calcium carbonate equivalent—0 to 5 percent.

Reaction—Slightly alkaline to strongly alkaline.

Bk horizons:

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 4 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified with gravelly sandy loam, loamy sand and fine sandy loam.

Structure—Subangular blocky or massive.

Consistence—Soft to hard dry, very friable to firm moist, nonsticky to slightly sticky and nonplastic to slightly plastic wet.

Calcium carbonate equivalent—10 to 30 percent.

Secondary calcium carbonate—Some pedons have concretions around rock fragments.

Reaction—Moderately alkaline to very strongly alkaline.

Cementation—It is weakly cemented in some pedons.

Ck horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry.

Chroma—3 to 6, dry or moist.

Texture—Gravelly loamy coarse sand or very gravelly loamy sand,

Rock fragments—30 to 55 percent gravel.

Calcium carbonate equivalent—5 to 20 percent.

Reaction—Moderately alkaline or strongly alkaline.

Cropper series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Backslopes of mountain.

Parent material: Residuum and colluvium derived from andesite.

Slope range: 15 to 50 percent.

Elevation: 6,200 to 8,000 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 41 to 45 degrees F.

Frost-free period: 80 to 90 days.

Native plants: Singleleaf pinyon and curleaf mountainmahogany woodland with an understory of bluebunch wheatgrass, muttongrass, basin wildrye, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls

Typical pedon: Cropper very gravelly sandy loam in an area of map unit 1300, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 15 percent pebbles, 10 percent cobbles, and 5 percent stones.

A—0 to 4 inches; brown (10YR 4/3) very gravelly sandy loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine and fine interstitial pores; 30 percent pebbles and 5 percent cobbles; neutral (pH 6.7); clear smooth boundary.

Bt1—4 to 9 inches; dark grayish brown (10YR 4/2) extremely gravelly clay loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; moderately hard, friable, moderately sticky and moderately plastic; few fine and medium roots; few very fine and fine interstitial pores; many distinct clay films on faces of peds; 50 percent pebbles and 10 percent cobbles; neutral (pH 7.3); clear smooth boundary.

Bt2—9 to 15 inches; yellowish brown (10YR 5/4) extremely gravelly clay loam, dark yellowish brown (10YR 3/4) moist; strong medium subangular blocky structure parting to moderate fine subangular blocky; hard, firm, moderately sticky and moderately plastic; common fine, few medium and coarse roots; few very fine interstitial and tubular pores; many distinct clay films on faces of peds; 45 percent pebbles and 15 percent cobbles; neutral (pH 7.3); abrupt wavy boundary.

R—15 inches; hard andesite.

Type location: Lincoln County, Nevada; about 0.25 mile west of Big Spring in the Egan Mountain Range; about 1,350 feet south and 1,740 feet west of the northeast corner of section 32, T.9 N., R.63 E.; USGS Shingle Pass 7.5 minute topographic quadrangle; 38 degrees, 35 minutes, 52 seconds north latitude and 114 degrees, 55 minutes, 22 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, intermittently moist for 10 to 20 days cumulative between July and October due to summer convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 44 to 47 degrees.

Mollic epipedon thickness: 7 to 10 inches, includes the Bt1 horizon in some pedons.

Depth to bedrock: 14 to 20 inches.

Reaction: Neutral or slightly alkaline.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragments—60 to 75 percent, mainly as pebbles.

A horizon:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—1 to 4 percent.

Bt horizons:

Hue—10YR or 7.5YR.

Value—3 through 5 dry, 2 through 4 moist.

Chroma—2 through 4 moist, chroma of 4 is typically in the Bt2 horizon.

Structure—Moderate or strong, very fine to medium subangular blocky or angular blocky.

Texture—Extremely gravelly sandy clay loam or extremely gravelly clay loam.

Organic matter content—1 or 2 percent.

Consistence—Soft to hard, dry; very friable to firm, moist; slightly sticky or moderately sticky, slightly plastic or moderately plastic, wet.

Other features—In some pedons thin subhorizons overlying the bedrock have textures of sandy clay with 35 to 50 percent clay.

Clay films—Few to many, faint or distinct.

Delamar series

Depth class: Moderately deep to an indurated duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Low to medium.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuffs with a minor amount of limestone.

Slope range: 0 to 4 percent.

Elevation: 4,600 to 5,200 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 52 to 55 degrees F.

Frost-free period: 130 to 160 days.

Native plants: Indian ricegrass, needleandthread, spiny hopsage, and Nevada ephedra.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Typic Argidurids

Typical pedon: Delamar gravelly sandy loam, in an area of map unit 3700, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; common fine and medium and few coarse roots; few fine tubular and common fine vesicular pores; 15 percent pebbles; very slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bt—3 to 10 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common fine and medium and few coarse roots; few fine tubular and common very fine interstitial pores; few faint clay films on faces of peds; 15 percent pebbles; very slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Btk—10 to 21 inches; yellowish brown (10YR 5/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky and moderately plastic; common fine and medium roots; few fine tubular pores; few faint clay films on faces of peds, 25 percent fine pebbles; common (5 percent) secondary calcium carbonate coats on bottom of rock fragments; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bqk—21 to 34 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; common fine and medium roots; many very fine and fine interstitial pores; 30 percent pebbles; common (15 percent) secondary silica and calcium carbonate coats on bottom of rock fragments; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bqkm—34 to 60 inches; very pale brown (10YR 7/3) cemented material, yellowish brown (10YR 5/4) moist, with thin (2 to 5 millimeter) indurated laminar cap; massive; violently effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; USGS Deadman Spring NE 7.5 minute topographic quadrangle 37 degrees, 58 minutes, and 44 seconds north latitude, 114 degrees, 49 minutes, and 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during the winter and early spring months and for short intermittent periods 10 to 20 days cumulative following summer convection storms during the period July through September. Typic aridic soil moisture regime.

Soil temperature: 54 to 59 degrees.

Reaction: Moderately alkaline or strongly alkaline.

Depth to duripan: 20 to 40 inches.

Other features: The duripan commonly has platy structure but is massive in some pedons.

Particle size control section:

Clay content—20 to 32 percent.

Rock fragments—Averages 10 to 25 percent, with lenses of 20 to 35 percent occurring in some pedons.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—1 to 5 percent.

Effervescence—Very slightly effervescent or slightly effervescent.

Bt horizons:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy loam, gravelly sandy loam, loam, gravelly loam, sandy clay loam, gravelly sandy clay loam, clay loam or gravelly clay loam.

Clay content—Averages 18 to 30 percent.

Rock fragments—5 to 25 percent.

Structure—Weak to strong, subangular blocky or angular blocky.

Consistence—Slightly hard or hard dry, friable or firm moist, nonsticky to sticky and nonplastic to plastic wet.

Calcium carbonate equivalent—1 to 5 percent.

Effervescence—Very slightly effervescent or strongly effervescent.

Btk horizon:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Clay loam or gravelly clay loam.

Clay content—27 to 35 percent.

Rock fragments—10 to 30 percent.

Consistence—Friable or firm moist.

Secondary carbonates—Common to many, fine and medium lime filaments, seams and soft masses, faint distinct secondary calcium carbonate on bottom of rock fragments.

Calcium carbonate equivalent—1 to 10 percent.

Other features—Few to many, very thin to thin lime coats and pendants on vertical faces and undersides of rock fragments.

Bqk horizons:

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly sandy loam, gravelly coarse sandy loam, gravelly loamy coarse sand or gravelly coarse sand.

Clay content—Averages 2 to 10 percent.

Rock fragments—Averages 15 to 25 percent.

Consistence—Soft to hard dry, very friable or friable moist, nonsticky or slightly sticky and nonplastic or slightly plastic wet.

Calcium carbonate equivalent—5 to 15 percent.

Other features—Common or many, thin to thick lenses and masses of silica and lime cemented material.

Devildog series

Depth class: Very deep.

Drainage class: Somewhat excessively drained.

Permeability: Moderately rapid.

Runoff: Very low to medium.

Landform: Inset fans and drainageways.

Parent material: Alluvium derived from welded tuff with a component of volcanic ash.

Slope range: 0 to 8 percent.

Elevation: 4,250 to 7,250 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 53 degrees F.

Frost-free period: 110 to 150 days.

Native plants: Indian ricegrass, galleta, and Wyoming big sagebrush. Other areas may support basin big sagebrush and desert almond.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Vitrixerandic Haplocambids

Typical pedon: Devildog very gravelly ashy coarse sandy loam, in an area of map unit 2305, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 15 percent gravel. The lithology of the rock fragments is welded tuff.

A—0 to 4 inches; pale brown (10YR 6/3) very gravelly ashy coarse sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure parting to weak very thin platy; soft, very friable, slightly sticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 40 percent pebbles; slightly alkaline (pH 7.5); clear smooth boundary.

Bw—4 to 12 inches; yellowish brown (10YR 5/4) gravelly ashy coarse sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine interstitial pores; 25 percent pebbles; slightly alkaline (pH 7.6); gradual smooth boundary.

Bk1—12 to 20 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine interstitial pores; 50 percent pebbles; common (5 percent) platy concretions of secondary calcium carbonate around rock fragments; strongly effervescent; moderately alkaline (pH 8.2); gradual smooth boundary.

Bk2—20 to 38 inches; pale brown (10YR 6/3) stratified very gravelly loamy coarse sand and very gravelly ashy coarse sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 50 percent pebbles; common (5 percent) platy concretions of secondary calcium carbonate around rock fragments; slightly effervescent; moderately alkaline (pH 8.3); clear smooth boundary.

Bk3—38 to 60 inches; pale brown (10YR 6/3) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; soft, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 30 percent pebbles; common (10 percent) platy concretion of secondary calcium carbonate around rock fragments; violently effervescent; moderately alkaline (pH 8.2).

Type location: Lincoln County, Nevada; approximately 0.5 mile west of Put Back Spring and 60 feet east of dirt road in Garden Valley; about 2,470 feet north and 2,090 feet west of the southeast corner of section 34, T.2 N., R.58 E.;

USGS Water Gap West 7.5 minute topographic quadrangle; 38 degrees, 59 minutes, 31 seconds north latitude and 115 degrees, 26 minutes, 39 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative from July through September, due to summer convection storms. Aridic soil moisture regime bordering on xeric.

Mean annual soil temperature: 52 to 55 degrees F.

Depth to cambic horizon: 2 to 5 inches.

Thickness of cambic horizon: 5 to 20 inches.

Depth to the base of the ashy textures: 7 to 13 inches.

Reaction: Slightly alkaline to strongly alkaline.

Control section:

Clay content—4 to 18 percent.

Rock fragments—35 to 60 percent. Lithology of the fragments is mainly welded tuff.

A horizon:

Chroma—2 through 4, dry or moist.

Volcanic glass content—25 to 50 percent volcanic glass in the 0.02 to 2 millimeter fraction.

Other features—The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 30 or more.

Bw horizon:

Value—4 through 6 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Texture—Coarse sandy loam, ashy coarse sandy loam or sandy loam or ashy sandy loam.

Clay content—4 to 18 percent.

Rock fragments—20 to 50 percent, mainly as gravel.

Volcanic glass content—25 to 50 percent volcanic glass in the 0.02 to 2 millimeter fraction in the upper part, decreasing to 5 to 25 percent in the lower part.

Other features—The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 30 or more in the upper part, and decreases to less than 30 in the lower part.

Bk1 and Bk2 horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified very gravelly coarse sandy loam, very gravelly loamy coarse sand and very gravelly coarse sand. Some pedons contain thin strata of extremely gravelly coarse sand or thin strata of ashy material.

Clay content—4 to 18 percent.

Rock fragments—35 to 60 percent, mainly gravel.

Secondary carbonates—Less than 10 percent as masses on ped faces or coats around rock fragments.

Calcium carbonate equivalent—Less than 5 percent.

Volcanic glass content—5 to 25 percent volcanic glass in the 0.02 to 2 millimeter fraction. Volcanic glass content is typically highest in the upper horizons.

Other features—The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Bk3 horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Textures—Sandy loam, coarse sandy loam and sandy clay loam. Some horizons may have stratified layers of coarse sand.

Clay content—10 to 24 percent.

Rock fragments—20 to 50 percent.

Secondary carbonates—0 to 10 percent masses on ped faces or platy concretions around rock fragments.

Calcium carbonate equivalent—0 to 5 percent.

Volcanic glass content—5 to 25 percent volcanic glass in the 0.02 to 2 millimeter fraction.

Other features—The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Duffer series

Depth class: Very deep.

Drainage class: Poorly drained or somewhat poorly drained.

Permeability: Moderately slow.

Runoff: Low to high.

Landform: Floodplains and basin floors.

Parent material: Alluvium, loess, and lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 5,900 to 6,750 feet.

Mean annual precipitation: 7 to 10 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Alkali sacaton, alkali cordgrass, basin wildrye, and black greasewood.

Taxonomic class: Fine-silty, carbonatic, mesic Aquic Haplocalcids

Typical pedon: Duffer silt loam in an area of White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 5 inches; grayish brown (10YR 5/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate fine granular structure; hard, firm, moderately sticky and moderately plastic; many very fine, fine and medium roots; common very fine tubular pores; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bw—5 to 11 inches; light brownish gray (10YR 6/2) silty clay loam, grayish brown (10YR 5/2) moist; moderate very fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common fine and medium roots; common very fine tubular pores; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bk1—11 to 20 inches; light brownish gray (10YR 6/2) silty clay loam, gray (10YR 5/1) moist; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine and medium roots; few fine tubular pores; few fine secondary calcium carbonate masses; violently effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bk2—20 to 48 inches; white (10YR 8/1) silty clay loam, light gray (10YR 7/1) moist; massive; hard, firm, very sticky and very plastic; few fine and medium roots; few fine tubular pores; many fine through coarse secondary calcium carbonate concretions; violently effervescent; strongly alkaline (pH 8.5); abrupt smooth boundary.

2C—48 to 65 inches; white (10YR 8/1) stratified very fine sandy loam through silty clay loam, gray (10YR 6/1) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine and medium roots; few fine tubular pores; strongly effervescent; moderately alkaline (pH 8.0).

Type location: White Pine County, Nevada; approximately 2.5 miles southeast of the Cleveland ranch headquarters, near a small spring; about 2,600 feet west, 1,500 feet south of the northeast corner of section 29, T.16 N., R.67 E.; USGS South Bastian Spring 7.5 minute topographic quadrangle; 39 degrees, 13 minutes, 31 seconds north latitude and 114 degrees, 27 minutes, 37 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Saturated between depths of 18 and 40 inches in winter and spring, and are usually moist above these depths due to capillary rise from the ground water table. The moisture control section is dry in summer and fall. Aridic soil moisture regime that borders on aquic.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to calcic horizon: 12 to 29 inches.

Reaction: Moderately alkaline to very strongly alkaline.

Particle size control section:

Clay content—20 to 35 percent.

Other features—The upper 20 to 30 inches of soil are normally strongly saline-sodic unless reclaimed.

A horizons:

Hue—10YR through 5Y.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—1 through 4, dry or moist.

Effervescence—Slightly effervescent through strongly effervescent.

Salinity (EC)—4 to 32 mmhos/cm.

Sodicity (SAR)—13 to 90.

Calcium carbonate equivalent—20 to 40 percent.

Gypsum content—0 to 2 percent.

Bw horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Structure—Weak or moderate, very fine to medium, granular, subangular blocky, or platy; in some pedons the lower part is massive.

Texture—Silt loam or silty clay loam.

Consistence—Slightly hard to hard, dry; friable to firm, moist; slightly sticky or moderately sticky, slightly plastic or moderately plastic, wet.

Salinity (EC)—4 to 32 mmhos/cm.

Sodicity (SAR)—13 to 90.

Calcium carbonate equivalent—20 to 40 percent.

Gypsum content—0 to 2 percent.

Bk horizons:

Hue—7.5YR through 5Y.

Value—6 through 8 dry, 4 through 7 moist.

Chroma—1 through 4, dry or moist.

Texture—Silt loam or silty clay loam.

Structure—Subangular blocky or massive.

Consistence—Slightly hard to hard, dry; very friable to firm, moist; slightly sticky to very sticky, slightly plastic to very plastic, wet.

Effervescence—Strongly effervescent or violently effervescent.

Salinity (EC)—8 to 32 mmhos/cm.

Sodicity (SAR)—13 to 90.

Calcium carbonate equivalent—40 to 60 percent.

Gypsum content—1 to 5 percent.

Identifiable secondary carbonates—Few to many, very weakly cemented to moderately cemented nodules of calcium carbonate (petronodes).

Redoximorphic features—Some pedons have few to many, distinct or prominent redox concentrations of iron.

2C horizon:

Hue—10YR through 5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—1 through 4, dry or moist.

Texture—Stratified very fine sandy loam to silty clay loam.

Clay content—15 to 30 percent.

Consistence—Slightly hard to very hard, dry; friable to firm, moist; nonsticky to moderately sticky, nonplastic to moderately plastic, wet.

Salinity (EC)—4 to 32 mmhos/cm.

Sodicity (SAR)—13 to 30.

Calcium carbonate equivalent—20 to 60 percent.

Gypsum content—1 or 2 percent.

Eaglepass series

Depth class: Very shallow.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: High or very high.

Landform: Mountains and hills.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 8 to 75 percent.

Elevation: 5,000 to 8,800 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 48 to 52 degrees F.

Frost-free period: 100 to 150 days.

Native plants: Needleandthread, desert needlegrass, littleleaf mountainmahogany, and black sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

Typical pedon: Eaglepass extremely gravelly loamy coarse sand in an area of map unit 1900, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 60 percent pebbles, 20 percent cobbles, and 10 percent stones.

A—0 to 2 inch; pale brown (10YR 6/3) extremely gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; moderate thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine, and few fine and medium roots; many very fine interstitial pores; 60 percent pebbles, 20 percent cobbles, and 5 percent stones; moderately alkaline (pH 8.4); violently effervescent; clear smooth boundary.

C—2 to 6 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine, and few fine and medium roots; common very fine interstitial pores; 50 percent pebbles, 20 percent cobbles, and 5 percent stones; strongly alkaline (pH 8.7); violently effervescent; very abrupt smooth boundary.

R—6 inches; hard limestone.

Type location: Lincoln County, Nevada; about 0.25 mile south of the Lincoln and Nye County line on the north end of the Timber Mountains; USGS Timber Mountain Pass East 7.5 minute topographic quadrangle; 38 degrees, 02 minutes, 55 seconds north latitude and 115 degrees, 06 minutes, 51 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July to October due to convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 50 to 53 degrees F.

Depth to bedrock: 4 to 6 inches.

Reaction: Moderately alkaline or strongly alkaline.

Carbonates: Calcareous in all parts, violently effervescent. Less than 20 millimeter fraction contains more than 40 percent calcium carbonate equivalent.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—60 to 75 percent, includes pebbles, cobbles and stones.

A horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

C horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture of fine earth—Loam, fine sandy loam or sandy loam.

Structure—Weak or moderate, fine or medium, subangular blocky.

Consistence—Nonsticky to moderately sticky, and nonplastic or slightly plastic wet.

Other features—Secondary calcium carbonate pendants and coatings are on rock fragments in some pedons.

Eastmore series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from limestone and quartzite.

Slope range: 2 to 30 percent.

Elevation: 5,550 to 6,600 feet.

Mean annual precipitation: 7 to 10 inches.

Mean annual air temperature: 48 to 52 degrees F.

Frost-period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xereptic Haplodurids

Typical pedon: Eastmore gravelly sandy loam in an area of map unit 1003, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 50 percent pebbles and 5 percent cobbles

A—0 to 3 inches; very pale brown (10YR 7/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; strong very thick platy structure parting to weak very thin platy; slightly hard, friable, moderately sticky and slightly plastic; many very fine and common fine roots; many very fine, common fine, and few medium vesicular pores; 15 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

Bk—3 to 8 inches; very pale brown (10YR 7/3) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure parting to moderate fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and fine, and few medium tubular and interstitial pores; many (20 percent) fine (1 mm) secondary calcium carbonate concretions on bottom of rock fragments; 55 percent pebbles; violently effervescent; strongly alkaline (pH 8.9); clear smooth boundary.

Bqk—8 to 17 inches; light gray (10YR 7/2) extremely gravelly coarse sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine and few fine tubular and interstitial pores; many (20 percent) secondary calcium carbonate and secondary silica concretions forming pendants on the bottom of rock fragments; 20 percent strongly cemented duripan fragments; 50 percent pebbles and 20 percent cobbles; violently effervescent; very strongly alkaline (pH 9.5); clear smooth boundary.

Bqkm1—17 to 32 inches; very pale brown (10YR 8/2) cemented material, pale brown (10YR 6/3) moist; massive; extremely hard, slightly rigid; duripan strongly cemented by secondary silica; few very fine and fine roots; few very fine and fine interstitial and tubular pores; violently effervescent; moderately alkaline (pH 8.3); clear smooth boundary.

Bqkm2—32 to 49 inches; very pale brown (10YR 8/2) cemented material, very pale brown (10YR 7/3) moist; massive; very hard, extremely firm; duripan moderately cemented by secondary silica; few very fine and fine roots; few very fine and fine interstitial pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.

Bk—49 to 65 inches; pale brown (10YR 6/3) gravelly very fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; many very fine, common fine and few medium interstitial pores; common (5 percent) secondary calcium carbonate concretions around rock fragments; 25 percent pebbles; strongly effervescent; very strongly alkaline (pH 9.7).

Type location: Lincoln County, Nevada; 1 mile south of Big Spring Wash, 3 miles west of Hamlin Valley, 100 feet south of the Troughs road; about 2,520 feet south and 980 feet west of the northeast corner of section 11, T.9 N., R.69 E.; USGS Big Springs 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, 24 seconds north latitude and 114 degrees, 11 minutes, 50 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative from July through September due to summer convection storms. Aridic bordering on xeric soil moisture regime.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to duripan: 14 to 20 inches.

Thickness of the calcic horizon: 6 to 15 inches.

Reaction: Slightly alkaline through very strongly alkaline.

Particle size control section:

Clay content—12 to 18 percent.

Rock fragments—35 to 70 percent, mostly pebbles and some cobbles with limestone and quartzite lithology.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—5 to 10 percent in the fine earth fraction.

Bk horizon:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 or 3 dry, 3 or 4 moist.

Texture—Loam, sandy loam, fine sandy loam or very fine sandy loam.

Clay content—12 to 18 percent.

Rock fragments—25 to 60 percent, mainly pebbles.

Calcium carbonate equivalent—10 to 20 percent in the fine earth fraction and is 5 percent or more higher than in the underlying Bqk horizon.

Bqk horizon:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Texture—Sandy loam or fine sandy loam.

Clay content—12 to 18 percent.

Rock fragments—35 to 70 percent, mainly pebbles.

Calcium carbonate equivalent—10 to 20 percent in the fine earth fraction, and is 5 percent or more higher than in the underlying Bqkm horizon.

Bqkm horizons:

Value—7 or 8 dry, 5 through 7 moist.

Chroma—1 through 3 dry, 2 through 4 moist.

Bk horizon:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 or 4 dry, 3 through 6 moist.

Texture—Loamy sand, loamy coarse sand, or fine sandy loam.

Clay content—5 to 10 percent.

Rock fragments—25 to 60 percent.

Calcium carbonate equivalent—5 to 10 percent in the fine earth fraction.

Eganroc series

Depth class: Moderately deep.

Drainage class: Well.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 30 to 75 percent.

Elevation: 8,000 to 10,200 feet.

Mean annual precipitation: 18 to 27 inches.

Mean annual air temperature: 39 to 43 degrees F.

Frost-free period: 50 to 70 days.

Native plants: White fir, bristlecone pine, and limber pine woodland. Understory vegetation includes bluebunch wheatgrass, muttongrass, goldenweed, and mountain big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive Calcic Pachic Haplocryolls

Typical pedon: Eganroc very stony loam in an area of Western White Pine County, Area, Nevada, woodland. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with approximately 30 percent pebbles, 30 percent cobbles, and 15 percent stones.

A1—0 to 2 inches; grayish brown (10YR 5/2) very stony loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular and interstitial pores; 30 percent pebbles; 10 percent cobbles, and 15 percent stones; slightly alkaline (pH 7.8); abrupt smooth boundary.

A2—2 to 5 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine and medium roots; many very fine tubular pores; common faint secondary calcium carbonate concretions on bottom of pebbles; 45 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.

A3—5 to 9 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; many very fine and few fine, medium, and coarse roots; many very fine tubular and interstitial pores; common faint secondary calcium carbonate concretions on bottom of rock fragments; 40 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.8); gradual smooth boundary.

2Bk1—9 to 22 inches; grayish brown (10YR 5/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine, medium, and coarse roots; many very fine interstitial pores; many distinct secondary calcium carbonate concretions on bottom of rock fragments; 65 percent pebbles and 5 percent cobbles; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Bk2—22 to 34 inches; brown (10YR 5/3) extremely gravelly loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, and common fine, medium, and coarse roots; many very fine tubular pores; many distinct secondary calcium carbonate concretions on bottom of rock fragments with common distinct secondary calcium carbonate pendants; 65 percent pebbles and 10 percent cobbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt irregular boundary.

3R—34 inches; dolomite bedrock; slightly effervescent.

Type location: White Pine County, Nevada; approximately 4 miles north of Cherry Creek, about 1,300 feet west and 1,300 feet north of the southeast corner of section 12, T.24 N., R.62 E.; 39 degrees, 57 minutes, 38 seconds north latitude and 114 degrees, 53 minutes, 48 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually moist, moist late fall through early summer, dry mid summer through early fall. Typic xeric soil moisture regime.

Soil temperature: 41 to 45 degrees F.

Average summer soil temperature: 54 to 59 degrees F.

Thickness of the mollic epipedon: 16 to 25 inches (includes upper part of 2Bk horizon in some pedons).

Depth to calcic horizon: 9 to 15 inches.

Depth to bedrock: 30 to 40 inches.

Particle size control section:

Clay content—16 to 27 percent.

Rock fragments—35 to 70 percent, including 5 to 15 percent cobbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Calcium carbonate equivalent—0 to 2 percent.

2Bk1 horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Structure—Subangular blocky or massive

Texture—Very gravelly loam, extremely gravelly loam.

Reaction—Slightly alkaline or moderately alkaline.

Consistence—Soft or slightly hard.

Calcium carbonate equivalent—15 to 25 percent.

2Bk2 horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Structure—Subangular blocky or massive.

Texture—Very gravelly loam, extremely gravelly loam.

Consistence—Soft or slightly hard.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent—15 to 25 percent.

Correlation note—Eganroc soil in map unit 1920 is not as moist as typical for the series. Use and management is not affected.

Eoj series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Very slow.

Runoff: Very high.

Landform: Backslopes of mountains.

Parent material: Residuum and colluvium derived from quartzite and limestone.

Slope range: 4 to 30 percent.

Elevation: 6,400 to 9,200 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 80 to 100 days.

Native plants: Thurber's needlegrass, bluebunch wheatgrass, and low sagebrush.

Taxonomic class: Fine, smectitic, frigid Typic Palexerolls

Typical pedon: Eoj gravelly loam in an area of map unit 4018, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with approximately 20 percent pebbles.

A—0 to 6 inches; brown (10YR 4/3) gravelly loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, few fine and medium roots; common very fine and fine interstitial pores; 20 percent pebbles; neutral (pH 6.7); clear smooth boundary.

2Bt1—6 to 12 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; few very fine and common fine and medium roots; few very fine tubular pores; many distinct clay films on faces of peds; 15 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

2Bt2—12 to 24 inches; yellowish brown (10YR 5/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate coarse prismatic structure parting to strong coarse angular blocky; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; many distinct clay films on faces of peds and common pressure faces; 15 percent pebbles; slightly effervescent; slightly alkaline (pH 7.4); clear smooth boundary.

2Btk1—24 to 40 inches; yellowish brown (10YR 5/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate coarse angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine tubular pores; very few very fine roots; many distinct clay films on faces of peds and common pressure faces; 15 percent pebbles; common (2 percent) secondary calcium carbonate concretions; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

2Btk2—40 to 60 inches; yellowish brown (10YR 5/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine tubular pores; common distinct clay films on faces of peds and many pressure faces; 15 percent pebbles; common (2 percent) secondary calcium carbonate concretions; strongly effervescent; moderately alkaline (pH 8.1).

Type location: Lincoln County, Nevada; south of Grassy Pass jeep trail; 450 feet south and 1,280 feet east of the northwest corner of section 16, T.6 N., R.65 E.; USGS Dutch John Mountain 7.5 minute topographic quadrangle; 38 degrees, 23 minutes, 6 seconds north latitude and 114 degrees, 41 minutes, 9 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist, moist in late fall through spring, dry summer through mid fall. Xeric bordering aridic soil moisture regime.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 12 to 20 inches (includes upper part of the 2Bt horizon).

Depth to secondary carbonates: 17 to 30 inches.

Other features: There is an increase of 15 to 30 percent clay at the upper boundary of the Bt horizon.

Particle size control section:

Clay content—40 to 60 percent.

Rock fragments—15 to 35 percent stones, cobbles and pebbles, mainly pebbles and cobbles.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

2Bt horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Structure—Angular blocky or subangular blocky, some pedons have subhorizons that are prismatic parting to angular blocky.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Slightly or strongly effervescent in lower part.

Secondary carbonates—Few to common lime filaments in the lower part.

Consistence—Hard to very hard dry, firm to very firm, moist and moderately sticky to very sticky and moderately plastic to very plastic, wet,

Other features—Pressure faces are present in some pedons in the upper part.

Clay films—Common to many.

Escalante series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate or moderately rapid.

Runoff: Low and very low.

Landform: Inset fans, and fan skirts.

Parent material: Alluvium derived from rhyolite and some limestone.

Slope range: 0 to 4 percent.

Elevation: 4,800 to 7,000 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 46 to 52 degrees F.

Frost-free period: 100 to 150 days.

Native plants: Indian ricegrass, winterfat, and bud sage.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Xeric Haplocalcids

Typical pedon: Escalante very gravelly sandy loam in an area of map unit 1010, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; few fine roots; few very fine and fine interstitial pores; 35 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk1—3 to 16 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine and medium roots; common fine tubular pores; 30 percent pebbles; common (5 percent) secondary calcium carbonate concretions on bottom of rock fragments and disseminated throughout; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—16 to 27 inches; very pale brown (10YR 7/3) gravelly sandy loam, brown (10YR 5/3) moist; massive; hard, firm, nonsticky and nonplastic; few fine and medium roots; few fine tubular pores; 20 percent pebbles; common (10 percent) secondary calcium carbonate concretions on bottom of rock fragments and disseminated throughout; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Ck—27 to 60 inches; pale brown (10YR 6/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, nonsticky and nonplastic; few fine and medium roots; few fine tubular pores; 40 percent pebbles and 5 percent cobbles; common (15 percent) secondary calcium carbonate concretions around rock fragments and disseminated throughout; moderately alkaline (pH 8.0).

Type location: Lincoln County, Nevada; USGS Hamlin Well 7.5 minute topographic quadrangle; 38 degrees, 27 minutes, 13 seconds north latitude and 114 degrees, 3 minutes, 29 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July and September due to rainfall from convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 54 degrees F.

Mean summer soil temperature: 64 to 70 degrees F.

Depth to carbonates: Calcareous from the soil surface throughout the profile.

Depth to calcic horizon: 3 to 25 inches.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—Less than 35 percent, mainly pebbles.

A horizon:

Hue—7.5YR or 10YR.

Value—4 or 5 moist.

Chroma—2 through 6, dry or moist.

Texture—Loamy fine sand, sandy loam, fine sandy loam, very fine sandy loam, gravelly sandy loam, very gravelly sandy loam, or silt loam.

Reaction—Slightly alkaline to strongly alkaline.

Bk horizons:

Hue—7.5YR or 10YR

Value—5 through 8 dry, 4 through 7 moist

Chroma—2 through 6, dry or moist.

Texture—Sandy loam, fine sandy loam, sandy clay loam, loam, gravelly loam, or gravelly sandy loam.

Structure—Massive or subangular blocky.

Consistence—Soft through hard dry, friable through firm moist, nonsticky to moderately sticky, nonplastic or slightly plastic.

Calcium carbonate equivalent—15 to 40 percent.

Reaction—Moderately alkaline to very strongly alkaline.

Other features—In cultivated areas this horizon is slightly saline.

Ck horizon:

Hue—7.5YR, 10YR, or 2.5Y.

Value—5 through 8 dry, 3 through 6 moist.

Chroma—2 through 6, dry or moist.

Texture—Sandy loam, fine sandy loam, loamy sand, coarse sandy loam, loam, silt loam, loamy fine sand, sandy clay loam, gravelly sandy loam, or very gravelly sandy loam. Some pedons in Idaho have texture of very fine sandy loam.

Reaction—Moderately alkaline to very strongly alkaline.

Calcium carbonate equivalent—5 to 30 percent.

Ewelac series

Depth class: Very deep.

Drainage class: Moderately well drained.

Permeability: Slow.

Runoff: Medium or high.

Landform: Basin floors.

Parent material: Lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 4,550 to 4,600 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 46 to 49 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Inland saltgrass and black greasewood.

Taxonomic class: Fine, smectitic, mesic Vertic Haplocambids

Typical pedon: Ewelac silt loam in an area of map unit 3193, rangeland. (Colors are for dry soil conditions unless otherwise noted.)

An—0 to 3 inches; light olive brown (2.5Y 5/3) silt loam, olive brown (2.5Y 4/3) moist; moderate medium subangular blocky structure parting to strong medium granular; soft, very friable, slightly sticky and moderately plastic; few very fine, fine and medium roots; many very fine and common fine interstitial pores; very slightly saline; strongly effervescent; very strongly alkaline (pH 9.1); clear smooth boundary.

Bnz—3 to 10 inches; light brownish gray (2.5Y 6/2) silty clay loam, light olive brown (2.5Y 5/3) moist; moderate coarse prismatic structure parting to strong very coarse subangular blocky; hard, firm, slightly sticky and moderately plastic; few very fine and fine, and common medium roots; common very fine and fine, and few medium interstitial pores; secondary calcium carbonate disseminated throughout; moderately saline; strongly sodic; few very fine rounded salt masses; strongly effervescent; very strongly alkaline (pH 9.7); clear smooth boundary.

Bkn—10 to 35 inches; light gray (2.5Y 7/2) silty clay, light yellowish brown (2.5Y 6/3) moist; strong coarse prismatic structure parting to strong medium angular blocky; very hard, firm, moderately sticky and very plastic; few very fine, fine and medium roots; few fine interstitial pores; secondary calcium carbonate disseminated throughout and few fine irregular masses of secondary calcium carbonate; slightly saline; moderately sodic; violently effervescent; very strongly alkaline (pH 9.4); gradual smooth boundary.

Bkg—35 to 60 inches; light gray (5Y 7/1) clay, light brownish gray (2.5Y 6/2) moist; moderate coarse subangular blocky structure; hard, firm, moderately sticky and very plastic; few very fine and fine roots; few fine interstitial pores; secondary calcium carbonate finely disseminated throughout and few medium irregular masses of secondary calcium carbonate; common distinct and prominent, yellow (2.5Y 7/6) irregular shaped iron concentrations on ped faces; violently effervescent; very strongly alkaline (pH 9.7).

Type location: Lincoln County, Nevada; located in Dry Lake Valley; USGS Deadman Spring SE 7.5 minute topographic quadrangle; 37 degrees, 46 minutes, 59 seconds north latitude and 114 degrees, 48 minutes, 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Saturated between depths of 42 to 60 inches in the early spring and usually moist at this depth due to capillarity from ground water. Soil moisture control section (4 to 12 inches depth) is usually dry in summer and fall except for 10 to 20 days cumulative from July through September due to convection storms.

Soil temperature: 47 to 52 degrees F.

Reaction: Strongly alkaline or very strongly alkaline.

Particle size control section:

Clay content—35 to 50 percent.

Calcium carbonate equivalent—25 to 35 percent.

Other features—Where the soil surface is not vegetated, the surface is highly dispersed and contains powdery white crystalline salt accumulations at a depth of 3 to 5 inches below the surface.

An horizon:

Hue—2.5Y or 5Y.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Electrical conductivity—0 to 4 dS/m.

Sodium adsorption ratio—13 to 30.

Bnz horizon:

Hue—2.5Y or 5Y.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Silty clay or silty clay loam.

Electrical conductivity—8 to 16 dS/m.

Sodium adsorption ratio—46 to 90.

Structure—Moderate medium or coarse prismatic or columnar structure parting to subangular blocky.

Bkn horizon:

Hue—2.5Y or 5Y.

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 or 3, dry or moist.

Texture—Silty clay or silty clay loam.

Electrical conductivity—4 to 8 dS/m.

Sodium adsorption ratio—31 to 45.

Visible secondary carbonates range from 1 to 4 percent.

Bkg horizon:

Hue—2.5Y or 5Y.

Value—7 or 8 dry, 6 or 7 moist.

Chroma—1 or 2, dry or moist.

Electrical conductivity—0 to 4 dS/m.

Sodium adsorption ratio—1 to 5.

Visible secondary calcium carbonates—1 to 4 percent.

Structure—Subangular blocky or massive.

Fang series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very low to medium.

Landform: Inset fans.

Parent material: Alluvium derived from welded tuffs, basalt and limestone with a component of volcanic ash.

Slope range: 2 to 8 percent.

Elevation: 4,950 to 5,300 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 54 to 57 degrees F.

Frost-free period: 130 to 170 days.

Native plants: Indian ricegrass, fourwing saltbrush, and winterfat.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents

Typical pedon: Fang fine sandy loam in an area of Pahrnagat-Penoyer, Area, Nevada, rangeland. (Colors are for dry soil conditions unless otherwise noted.)

A—0 to 3 inches; light brownish gray (10YR 6/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak fine and medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine, fine and medium vesicular pores; slightly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

C1—3 to 13 inches; light gray (10YR 7/2) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine and few medium roots; many very fine and fine, and few medium tubular pores; slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

- C2—13 to 20 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and slightly plastic; many very fine and fine, and few medium roots; many very fine and fine tubular pores; slightly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.
- C3—20 to 39 inches; very pale brown (10YR 7/3) fine sandy loam with a few thin lenses of silt loam; brown (10YR 4/3) moist; massive with a moderate thin platy lenses of silty materials; soft, very friable, nonsticky and slightly plastic; many fine and very fine roots; many fine and very fine tubular pores; slightly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.
- 2C—39 to 45 inches; pale brown (10YR 6/3) extremely gravelly sand, brown; (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine and fine interstitial pores; 60 percent fine pebbles; slightly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.
- 3C—45 to 57 inches; light gray (10YR 7/2) loam, with a few fine faint very pale brown (10YR 8/2) secondary calcium carbonate filaments, brown (10YR 4/3) moist; weak coarse and medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and very fine roots; many fine and very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- 4C—57 to 64 inches; brown (10YR 5/3) gravelly coarse sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and very fine roots; common fine and many fine tubular pores; 15 percent pebbles; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; 2.95 miles southwest of triangulation station benchmark No.4784, along secondary road and 250 feet west of road. About 3,100 feet east and 1,200 feet north of the southwest corner of section 31, T.3 S., R.55 E. Mount Diablo base line and meridian; 37 degrees, 38 minutes, 18 seconds north latitude and 115 degrees, 49 minutes, 56 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in late winter and early spring and for 10 to 20 days between July and October due to summer convection storms. Typic aridic soil moisture regime.

Soil temperature: 54 to 59 degrees F.

Particle size control section:

Clay content—12 to 18 percent.

Sand—More than 30 percent fine sand and coarser.

Rock fragments—0 to 15 percent when mixed; some strata may contain up to 60 percent rock fragments.

A horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline to strongly alkaline.

Effervescence—Noneffervescent to strongly effervescent.

C horizons:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam or sandy loam.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent.

Other features—Contains appreciable amount of volcanic ash, glass or other pyroclastic materials.

Farepeak series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High to very high.

Landform: Backslopes of mountain.

Parent material: Residuum and colluvium derived from welded tuff.

Slope range: 8 to 50 percent.

Elevation: 5,850 to 8,600 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Singleleaf pinyon and Utah juniper woodland with an understory of bluebunch wheatgrass, muttongrass and mountain big sagebrush.

Taxonomic class: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Typical pedon: Farepeak very gravelly ashy loam in an area of map unit 4020, woodland (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 40 percent pebbles, 15 percent cobbles, 10 percent stones and 1 percent boulders. Lithology of the rock fragments is welded tuff.

A—0 to 3 inches; brown (10YR 5/3) very gravelly ashy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure parting to moderate fine granular; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial pores; 35 percent pebbles, 15 percent cobbles and 5 percent stones; neutral (pH 7.0); clear smooth boundary.

Bt1—3 to 7 inches; brown (10YR 4/3) very gravelly ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine and fine interstitial and tubular pores; 45 percent pebbles; few faint clay films on faces of peds; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—7 to 13 inches thick; brown (10YR 5/3) very gravelly ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine, common medium, and few coarse roots; common very fine and fine tubular pores; 50 percent pebbles and 5 percent cobbles; few faint clay films on faces of peds; moderately alkaline (pH 8.0); clear wavy boundary.

R—13 inches; hard welded tuff.

Type location: Lincoln County, Nevada; USGS Fairview Peak 7.5 minute topographic quadrangle; 38 degrees, 13 minutes, 36 seconds north latitude and 114 degrees, 39 minutes, 14 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 45 to 47 degrees F.

Mean summer soil temperature: 59 to 63 degrees F.

Mollic epipedon thickness: 7 to 14 inches, may include the whole argillic horizon.

Depth to lithic contact: 10 to 14 inches.

Volcanic glass content: 40 to 60 percent in the 0.2 to 2.0 mm fraction.

Particle size control section:

Clay content—Averages 27 to 35 percent.

Texture—Very gravelly ashy loam or very gravelly ashy sandy clay loam.

Rock fragments—35 to 60 percent, mainly pebbles.

A horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Organic matter content—3 to 8 percent.

Bt horizons:

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Clay content—27 to 35 percent.

Rock fragments—35 to 60 percent, mainly pebbles.

Calcium carbonate equivalent—0 to 1 percent.

Secondary calcium carbonate—Some pedons have few faint concretion on bottom of rock fragments.

Other features—Cobbles are mainly fragments of fractured bedrock with little displacement from the original rock structure.

Fax series

Depth class: Moderately deep to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium to high.

Landform: Fan remnants.

Parent material: Alluvium derived from andesite and quartzite.

Slope range: 2 to 8 percent.

Elevation: 5,900 to 6,550 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, and big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Argidic Durixerolls

Typical pedon: Fax very gravelly coarse sandy loam in an area of Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface has 15 percent cover of cobbles.

A—0 to 3 inches; grayish brown (10YR 5/2) very gravelly coarse sandy loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, friable, slightly sticky and slightly plastic; few fine roots; common very fine and fine vesicular pores; 30 percent pebbles and 15 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—3 to 7 inches; brown (10YR 5/3) very gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine through coarse roots; common very fine and fine tubular pores; 30 percent pebbles and 5 percent cobbles; few faint clay films on faces of peds; slightly alkaline (pH 7.8); clear smooth boundary.

Bt2—7 to 12 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, moderately sticky and moderately plastic; common very fine through coarse roots; common very fine and fine tubular pores; 35 percent pebbles and 10 percent cobbles; few faint clay films lining pores; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—12 to 22 inches; very pale brown (10YR 8/2) very gravelly sandy clay loam, brown (10YR 5/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine and medium roots; few fine tubular pores; 40 percent pebbles and 10 percent cobbles; violently effervescent; few fine secondary calcium carbonate masses; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bkqm—22 to 48 inches; very pale brown (10YR 7/3) cemented material, brown (10YR 5/3) moist; massive, extremely hard, slightly rigid; strongly cemented duripan; very cobbly and stony; thin strata and pockets of very cobbly loamy coarse sand; few fine roots in sandy strata and pockets; few very fine and fine interstitial pores; strongly cemented.

Type location: White Pine County, Nevada, approximately 19 miles south of Ely, about 1,700 feet west, 100 feet south of the northeast corner of section 30, T.13 N., R.64 E.; 38 degrees, 58 minutes, 01 second north latitude and 114 degrees, 49 minutes, 20 seconds east longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist late winter and spring, dry in summer and fall. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 50 degrees F.

Depth to the duripan: 20 to 36 inches.

Mollic epipedon thickness: 7 to 14 inches. Includes part or all of the Bt horizon.

Particle size control section:

Clay content—20 to 35 percent.

Rock fragments—35 to 55 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 alkaline or moderately alkaline.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Very cobbly or very gravelly sandy clay loam or clay loam.

Clay content—20 to 35 percent.

Rock fragments—30 to 55 percent pebbles, 0 to 30 percent cobbles, 0 to 10 percent stones.

Structure—Moderate fine and medium subangular blocky.

Consistence—Slightly hard to hard, dry.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent—0 to 1 percent in the material less than 2mm.

Bk horizon:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 or 3, dry or moist.

Texture—Very gravelly or very cobbly sandy clay loam or coarse sandy loam.

Clay content—14 to 28 percent.

Rock fragments—40 to 60 percent total, 30 to 50 percent pebbles, 5 to 30 percent cobbles and 0 to 20 percent stones.

Structure—Massive or weak medium subangular blocky.

Calcium carbonate equivalent—5 to 10 percent in the material less than 2mm.

Gabbvally series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium to very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from volcanic rocks with a component of volcanic ash.

Slope range: 8 to 50 percent.

Elevation: 4,900 to 7,700 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 50 to 54 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Gabbvally very gravelly sandy loam in an area of Nye County, Nevada, Northeast 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 2 inches; brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common fine vesicular pores; 30 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—2 to 9 inches; light yellowish brown (10YR 6/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common fine tubular pores; common faint clay films on faces of peds and lining pores; 30 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt2—9 to 11 inches; light yellowish brown (10YR 6/4) very gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few fine tubular pores; common faint clay films on faces of peds and lining pores; 30 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.8) clear wavy boundary.

R—11 inches; hard volcanic rock, weathered in the upper 2 inches.

Type location: Nye County, Nevada; USGS Black Top 7.5 minute topographic quadrangle; 500 feet south and 2,600 feet west of the northeast corner of section 30, T.2 S., R.54 E.; 37 degrees, 44 minutes, 54 seconds north latitude and 115 degrees, 56 minutes, 35 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry in summer and fall except for 10 to 20 days between July and October due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to bedrock: 6 to 14 inches to a lithic contact.

Reaction: Neutral or slightly alkaline.

Volcanic glass: 15 to 30 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—15 to 25 percent.

Rock fragments—35 to 50 percent; predominantly pebbles.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Bt horizons:

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy clay loam, loam, or sandy loam.

Structure—Subangular blocky or angular blocky

Clay content—18 to 27 percent.

Rock fragments—35 to 50 percent.

Consistence—Soft or slightly hard, dry, very friable or friable, moist, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Gardenvalley series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very low.

Landform: Fan skirts.

Parent material: Alluvium dominantly from welded tuff with a component of volcanic ash and minor amounts of limestone.

Slope range: 0 to 4 percent.

Elevation: 5,050 to 6,000 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 50 to 53 degrees F.

Frost-free period: 110 to 150 days.

Native plants: Indian ricegrass, winterfat, and bud sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Durinodic Haplocambids

Typical pedon: Gardenvalley gravelly fine sandy loam, in an area of map unit 1359, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 30 percent pebbles. Lithology of the pebbles is welded tuff.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly fine sandy loam, brown (10YR 4/3) moist; moderate thick platy structure parting to moderate thin platy; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine vesicular and common very fine interstitial pores; 20 percent pebbles; strongly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bw—3 to 16 inches; pale brown (10YR 6/3) very fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, moderately sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine interstitial pores; 10 percent pebbles; strongly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bqk1—16 to 31 inches; light yellowish brown (10YR 6/4) very fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine interstitial pores; many (20 percent) moderately cemented durinodes; 5 percent pebbles; secondary calcium carbonate is finely disseminated; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bqk2—31 to 44 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure parting to strong medium subangular blocky; slightly hard, friable, moderately sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; many (25 percent) moderately cemented durinodes; secondary calcium carbonate is finely disseminated; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

2Bk—44 to 62 inches; light yellowish brown (10YR 6/4) very gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial pores; common (5 percent) fine (1 to 2 mm) secondary calcium carbonate concretions on the bottom of rock fragments; 40 percent pebbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; about 10.5 miles west of the Water Gap and about 4.25 miles east of the Fryberger mine, and about 50 feet south of the jeep trail, in Garden Valley; approximately 800 feet north and 1,800 feet east of the southwest corner of section 7, T.1 N., R.58 E.; USGS Worthington Peak 7.5 minute topographic quadrangle; 37 degrees, 57 minutes, and 37 seconds north latitude and 115 degrees, 30 minutes, and 17 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 days cumulative between July and September due to summer convection storms. Typic aridic soil moisture regime.

Soil temperature: 52 to 55 degrees F.

Depth to cambic horizon: 2 to 5 inches.

Thickness of cambic horizon: 10 to 20 inches.

Depth to durinodes: 12 to 24 inches.

Volcanic glass content: 5 to 25 percent volcanic glass in the 0.02 to 2 millimeter fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—10 to 18 percent.

Rock fragments—0 to 15 percent. Lithology of the fragments is mainly welded tuff.

A horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Bw horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very fine sandy loam, fine sandy loam, and sandy loam.

Clay content—10 to 18 percent.

Rock fragments—0 to 15 percent.

Reaction—Slightly alkaline to strongly alkaline.

Bqk horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very fine sandy loam, fine sandy loam, and sandy loam.

Clay content—10 to 18 percent.

Rock fragments—0 to 15 percent.

Secondary silica—20 to 40 percent hard, brittle durinodes.

Reaction—Moderately alkaline to very strongly alkaline.

2Bk horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Loamy sand, loamy coarse sand and sandy loam.

Clay content—0 to 10 percent.

Rock fragments—35 to 50 percent.

Reaction—Moderately alkaline to very strongly alkaline.

Secondary calcium carbonate—2 to 15 percent concretions on bottom of rock fragments.

Garfan series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Very slow.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from quartzite.

Slope range: 2 to 30 percent.

Elevation: 6,550 to 8,550 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, low sagebrush, and antelope bitterbrush.

Taxonomic class: Clayey-skeletal, smectitic, frigid Xeric Paleargids

Typical pedon: Garfan very gravelly loam in an area of NV780, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered by approximately 70 percent pebbles, 10 percent cobbles and 15 percent stones.

A—0 to 8 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; few very fine tubular pores; 30 percent pebbles, 10 percent cobbles and 5 percent stones; slightly alkaline (pH 7.6); abrupt wavy boundary.

2Bt1—8 to 17 inches; strong brown (7.5YR 5/6) extremely cobbly clay, strong brown (7.5YR 4/6) moist; moderate medium angular blocky structure; hard, firm, very sticky and very plastic; common very fine and fine roots matted on ped faces; few very fine tubular pores; common prominent clay films on faces of peds and lining pores; 50 percent pebbles and 30 percent cobbles; moderately alkaline (pH 8.0); clear wavy boundary.

2Bt2—17 to 27 inches; strong brown (7.5YR 5/6) extremely cobbly clay, strong brown (7.5YR 4/6) moist; moderate medium angular blocky structure; hard, firm, very sticky and very plastic; few very fine roots matted on ped faces; few very fine tubular pores; common prominent clay films on faces of peds and lining pores; 55 percent pebbles and 35 percent cobbles; moderately alkaline (pH 8.2); clear wavy boundary.

2Bt3—27 to 60 inches; brown (7.5YR 5/4) extremely gravelly clay, brown (7.5YR 4/4) moist; lenses of extremely gravelly sandy clay; moderate medium angular blocky structure; hard, firm, very sticky and very plastic; few very fine roots matted on ped faces; few very fine interstitial pores; common prominent clay films on faces of peds and lining pores; 50 percent pebbles, 20 percent cobbles and 5 percent stones; moderately alkaline (pH 8.2).

Type location: White Pine County, Nevada; approximately 4 miles northeast of Parker Station in Cave Valley; about 1.8 miles north and 0.1 mile west of the northeast corner of section 3 in an unsectioned area, T.9 N., R.64 E.; 38 degrees, 41 minutes, and 56 seconds north latitude and 114 degrees, 46 minutes, and 21 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually dry, moist from late fall through spring dry summer through fall. Xeric soil moisture regime bordering on aridic.

Soil temperature: 42 to 46 degrees F.

Depth to upper boundary of argillic horizon: 5 to 9 inches.

Particle size control section:

Clay content—35 to 45 percent.

Rock fragments—60 to 90 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Structure—Moderate platy or subangular blocky.

2Bt horizons:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Upper part is extremely cobbly clay or extremely cobbly clay loam. Lower part is extremely gravelly clay or extremely gravelly clay loam.

Clay content—35 to 45 percent.

Rock fragments—Upper part is 40 to 55 percent pebbles and 20 to 35 percent cobbles and stones. Lower part is 40 to 60 percent pebbles and 5 to 25 percent cobbles and stones. Total always averages greater than 60 percent.
 Reaction—Neutral to moderately alkaline.

Geer series

Depth class: Very deep.

Drainage class: Well.

Permeability: Moderate.

Runoff: Low.

Landform: Alluvial flats, inset fans, and fan skirts.

Parent material: Alluvium derived from welded tuffs and limestone with a minor component of volcanic ash.

Slope range: 0 to 4 percent.

Elevation: 4,250 to 6,000 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 52 to 55 degrees F.

Frost-free period: 130 to 170 days.

Native plants: Indian ricegrass, winterfat, and budsage.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents

Typical pedon: Geer fine sandy loam in an area of map unit 1022, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 10 percent pebbles.

A1—0 to 4 inches; pale brown (10YR 6/3) fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate thick platy structure; soft, very friable, nonsticky and slightly plastic; few very fine and fine roots; few very fine vesicular and many very fine interstitial pores; 10 percent pebbles; strongly effervescent; strongly alkaline (pH 8.8); gradual smooth boundary.

A2—4 to 12 inches; pale brown (10YR 6/3) fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate very thick platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; 10 percent pebbles; strongly effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

C1—12 to 31 inches; very pale brown (10YR 7/4) fine sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; many very fine interstitial pores; 10 percent pebbles; strongly effervescent; strongly alkaline (pH 9.0); gradual smooth boundary.

C2—31 to 65 inches; very pale brown (10YR 7/4) fine sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; many very fine interstitial pores; 10 percent pebbles; strongly effervescent; strongly alkaline (pH 9.0).

Type location: Lincoln County, Nevada; 3 miles northeast of Ely Springs Ranch; about 2,230 feet south and 1,440 feet east of the northwest corner of section 2, T.1 N., R.65 E.; USGS Ely Springs 7.5 minute topographic quadrangle; 37 degrees, 56 minutes, 9 seconds north latitude and 114 degrees, 42 minutes, and 54 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 days cumulative between July and September due to summer convection storms. Typic aridic soil moisture regime.

Soil temperature: 53 to 59 degrees F.

Other features: Mineralogy has minor influence of volcanic ash, glass, and other pyroclastic material. Gravelly layers are in some pedons below 40 inches.

Particle size control section:

Clay content—Averages less than 18 percent.

Other features—Averages 15 to 30 percent fine sand or coarser.

Rock fragments—0 to 10 percent.

A horizons:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Slightly effervescent through strongly effervescent.

Reaction—Moderately alkaline to strongly alkaline.

C horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified fine sandy loam to silt loam.

Consistence—Soft or slightly hard, dry, nonsticky to moderately sticky and nonplastic to moderately plastic, wet.

Reaction—Moderately alkaline to very strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Other features—Some fine or medium lime segregations are in strata below 20 inches in some pedons. Few or common faint high chroma iron mottles are below 40 inches in some cultivated areas.

Correlation note—The Geer soil in map unit 1020 and 1060 is slightly cooler and has a shorter frost-free period than typical for the series. Present use and management are not affected.

Glotrain series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low and medium.

Landform: Fan remnants and fan skirts.

Parent material: Alluvium derived mainly from welded tuff with a component of volcanic ash and minor amounts of limestone.

Slope range: 0 to 8 percent.

Elevation: 4,250 to 5,800 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 50 to 55 degrees F.

Frost-free period: 110 to 150 days.

Native plants: Indian ricegrass, shadscale, bud sagebrush, and winterfat.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Typic Haplargids

Typical pedon: Glotrain gravelly coarse sandy loam in an area of map unit 1087, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 20 percent pebbles. Lithology of the pebbles is welded tuff and some limestone.

A—0 to 4 inches; brown (10YR 5/3) gravelly coarse sandy loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure parting to moderate very thin platy; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial and tubular pores; 15 percent pebbles; slightly effervescent; strongly alkaline (pH 8.7); clear smooth boundary.

Btk1—4 to 12 inches; brown (10YR 4/3) gravelly coarse sandy loam, dark brown (10YR 3/3) moist; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and fine interstitial and tubular pores; 15 percent pebbles; common faint clay films bridging sand grains; common (2 percent) secondary calcium carbonate masses throughout; slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Btk2—12 to 26 inches; pale brown (10YR 6/3) gravelly coarse sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and fine interstitial and tubular pores; common faint clay films bridging sand grains; 25

percent pebbles; many (25 percent) secondary calcium carbonate masses; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2Bk1—26 to 40 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 45 percent pebbles; common (5 percent) secondary calcium carbonate coats around rock fragments; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

2Bk2—40 to 60 inches; light brownish gray (10YR 6/2) stratified very gravelly loamy coarse sand and coarse sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 40 percent pebbles; common (5 percent) secondary calcium carbonate coats around rock fragments; slightly effervescent; strongly alkaline (pH 8.5).

Type location: Lincoln County, Nevada; approximately 0.75 mile northeast of Put Back Spring and 50 feet west of dirt road in Garden Valley; about 700 feet north and 2,250 feet east of the southwest corner of section 26, T.2 N., R.58 E.; USGS Water Gap West 7.5 minute topographic quadrangle; 38 degrees, 00 minutes, 07 seconds north latitude and 115 degrees, 25 minutes, 45 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative from July through September due to summer convection storms. Typic aridic soil moisture regime.

Mean annual soil temperature: 52 to 55 degrees F.

Depth to argillic horizon: 3 to 5 inches.

Thickness of the argillic horizon: 10 to 25 inches.

Calcium carbonate equivalent: 0 to 5 percent in the material less than 2 mm.

Volcanic glass content: 5 to 25 percent volcanic glass in the 0.02 to 2 millimeter fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Reaction: Moderately alkaline to very strongly alkaline.

Control section:

Clay content—10 to 18 percent.

Rock fragments—15 to 35 percent. Lithology of the fragments is mostly welded tuff.

A horizon:

Chroma—2 through 4, dry or moist.

Btk1 and Btk2 horizons:

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Coarse sandy loam and sandy loam.

Clay content—10 to 18 percent.

Rock fragments—15 to 35 percent; mainly pebbles.

Secondary carbonates—2 to 30 percent masses coating peds or in the matrix.

2Bk1 and 2Bk2 horizons:

Value—5 or 6 dry, 2 through 4 moist.

Chroma—2 or 3, dry or moist.

Textures—Coarse sandy loam and loamy coarse sand. Some horizons have stratified layers of coarse sand.

Clay content—4 to 10 percent.

Rock fragment content—35 to 50 percent.

Secondary carbonates—2 to 5 percent visible secondary carbonates around rock fragments.

Granquin series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Residuum and colluvium derived from welded tuff with a component of volcanic ash.

Slope range: 8 to 50 percent.

Elevation: 6,300 to 8,000 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Singleleaf pinyon and Utah juniper woodland, with an understory of Thurber's needlegrass, muttongrass, and low sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls

Typical pedon: Granquin very gravelly ashy very fine sandy loam in an area of map unit 2288, woodland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 50 percent pebbles, 20 percent cobbles, and 5 percent stones. Lithology of the fragments is welded tuff.

A—0 to 2 inches; brown (10YR 5/3) very gravelly very fine sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and common fine interstitial pores; 45 percent pebbles, 5 percent cobbles and 2 percent stones; neutral (pH 6.8); clear smooth boundary.

Bt1—2 to 5 inches; brown (10YR 4/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; many very fine and common fine and medium roots; many very fine and common fine interstitial and tubular pores; few faint clay films on faces of peds; 35 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.7); clear smooth boundary.

Bt2—5 to 10 inches; brown (10YR 4/3) very gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, very sticky and very plastic; many very fine and common fine and medium roots; many very fine and common fine interstitial and tubular pores; common faint clay films on faces of peds; 45 percent pebbles, 5 percent cobbles and 2 percent stones; slightly alkaline (pH 7.8); clear smooth boundary.

Bt3—10 to 14 inches; dark yellowish brown (10YR 4/4) extremely gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; soft, friable, very sticky and very plastic; many very fine and fine, common medium, and few coarse and very coarse roots; common very fine and fine interstitial and tubular pores; common faint clay films on faces of peds; 40 percent pebbles, 10 percent cobbles and 2 percent stones; slightly alkaline (pH 7.8); very abrupt smooth boundary.

R—14 inches; hard, slightly fractured, welded tuff.

Type location: Lincoln County, Nevada; approximately 0.3 mile south of the mountain road in the Quinn mountain range; about 1,975 feet east and 1,700 feet north of the southwest corner section 24, T.2 N., R.54 E.; USGS Goat Ranch Springs 7.5 minute topographic quadrangle; 38 degrees, 01 minute, 15 seconds north latitude and 115 degrees, 51 minutes, 13 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 45 to 47 degrees F.

Thickness of the mollic epipedon: 10 to 14 inches.

Depth to argillic horizon: 2 to 5 inches.

Depth to bedrock: 10 to 20 inches.

Other features: There is an abrupt clay content increase (15 percent or more within a vertical distance of 1 inch or 20 percent within 3 inches) between the A and Bt horizons.

Volcanic glass content: 15 to 30 percent volcanic glass in the 0.02 to 2.0 millimeter fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—27 to 35 percent.

Rock fragment content—50 to 80 percent.

A horizon:

Value—4 or 5 dry, and 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter—1 to 3 percent.

Bt1 and Bt2 horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay loam or sandy clay loam.

Clay content—27 to 35 percent.

Rock fragment content—50 to 80 percent, mainly pebbles and cobbles; some subhorizons have between 35 to 50 percent.

Bt3 horizon:

Hue—10YR or 7.5YR.

Value—3 through 5 dry or moist.

Chroma—2 through 4 dry or moist.

Clay content—27 to 35 percent.

Rock fragment content—50 to 80 percent.

Identifiable secondary carbonates—0 to 5 percent, mainly on bottom of rock fragments.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Gravier series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Low.

Landform: Fan skirts.

Parent material: Alluvium derived from limestone and welded tuff.

Slope range: 0 to 4 percent.

Elevation: 5,550 to 5,950 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 48 to 55 degrees F.

Frost-period: 100 to 130 days.

Native plants: Indian ricegrass, shadscale, winterfat, and bud sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Sodic Haplocalcids

Typical pedon: Gravier gravelly loam in an area of map unit 1060, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 35 percent pebbles and 5 percent cobbles.

A—0 to 4 inches; pale brown (10YR 6/3) gravelly loam, yellowish brown (10YR 5/4) moist; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine vesicular pores; 20 percent pebbles; violently effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—4 to 12 inches; light yellowish brown (10YR 6/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; secondary calcium carbonate is finely disseminated and few (2 percent) fine secondary calcium carbonate concretions on bottom of rock fragments; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.

Bk2—12 to 22 inches; very pale brown (10YR 7/3) gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; moderate medium coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; secondary calcium carbonate is finely disseminated and few (2 percent) fine secondary calcium carbonate concretions on bottom of rock fragments; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk3—22 to 41 inches; pale brown (10YR 6/3) extremely gravelly coarse sandy loam, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; secondary calcium carbonate is finely disseminated and few (2 percent) fine secondary calcium carbonate coats on bottom of rock fragments; 65 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); gradual smooth boundary.

Ck—41 to 65 inches; pale brown (10YR 6/3) extremely gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; secondary calcium carbonate is finely disseminated and few (2 percent) fine secondary calcium carbonate concretions on bottom of rock fragments; 65 percent pebbles and 20 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; about 1 mile south of Lincoln county line in Hamlin Valley and 50 feet west of road along fence; USGS Tweedywash 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, 48 seconds north latitude and 114 degrees, 5 minutes, 18 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist for short periods in winter and spring, dry late May through November. Typic aridic soil moisture regime.

Mean annual soil temperature: 53 to 59 degrees F.

Ochric epipedon thickness: 3 to 5 inches.

Particle size control section:

Clay content—Averages 8 to 18 percent.

Rock fragments—Average 35 to 60 percent mainly pebbles, with up to 10 percent cobbles. Lithology of fragments are mainly limestone.

Reaction—Moderately alkaline through strongly alkaline.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Sodicity (SAR)—1 to 5.

Calcium carbonate equivalent—5 to 10 percent in the less than 2mm fraction.

Bk horizons:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly loam, gravelly fine sandy loam through extremely gravelly coarse sandy loam with thin strata of loamy sand to loamy fine sand common in pedons.

Structure—Weak or moderate, fine through coarse subangular blocky, single grain, or is massive.

Consistence—Loose, soft or slightly hard dry, very friable or friable moist, nonsticky or slightly sticky and nonplastic or slightly plastic.

Calcium carbonate equivalent—15 to 30 percent in the less than 2mm fraction.

Identifiable secondary carbonates—Occurs as coats or pendants on rock fragments.

Sodicity (SAR)—13 to 30.

Ck horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 dry.

Chroma—2 through 4, dry or moist.

Texture—Extremely gravelly loamy sand or extremely gravelly coarse sand.

Calcium carbonate equivalent—5 to 25 percent in the less than 2mm fraction.

Sodicity (SAR)—13 to 30.

Other features—Subhorizons of some pedons have textures of very fine sandy loam.

Greatday series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low.

Landform: Basin-floor remnants.

Parent material: Alluvium derived from limestone and welded tuff.

Slope range: 2 to 4 percent.

Elevation: 5,550 to 5,650 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 52 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Petronodic Xeric Haplocalcids

Typical pedon: Greatday fine sandy loam in an area of White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; light brownish gray (10YR 6/2) fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate very thick platy structure parting to weak medium platy; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine, common fine and few medium vesicular pores; 5 percent pebbles; few (0.5 percent) thin prominent masses of secondary calcium carbonate on bottom of rock fragments; calcium carbonate equivalent is 34 percent; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—4 to 9 inches; pale brown (10YR 6/3) gravelly loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure parting to strong medium granular; soft, very friable, slightly sticky and nonplastic; many very fine and fine, common medium and few coarse roots; common very fine and fine, and few medium tubular and interstitial pores; 10 percent pebbles; 15 percent coarse strongly cemented secondary calcium carbonate nodules; few (1 percent) fine prominent masses of secondary calcium carbonate on bottom of rock fragments; calcium carbonate equivalent is 37 percent; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Bk2—9 to 14 inches; very pale brown (10YR 8/2) very gravelly silt loam, very pale brown (10YR 7/3) moist; moderate medium angular blocky structure parting to moderate medium platy; very hard, extremely firm, moderately sticky and moderately plastic; few very fine, common fine and few medium roots; common very fine and fine, and few medium irregular pores; many (50 percent) coarse very strongly cemented secondary calcium carbonate nodules; calcium carbonate equivalent is 40 percent; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

2Bk3—14 to 27 inches; white (10YR 8/1) very gravelly silt loam, pale brown (10YR 6/3) moist; moderate coarse subangular blocky structure; very hard, extremely firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine, and few fine and medium irregular pores; 50 percent pebble-size very strongly cemented secondary calcium carbonate nodules; calcium carbonate equivalent is greater than 60 percent; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

2Bk4—27 to 38 inches; pale brown (10YR 6/3) silty clay loam, yellowish brown (10YR 5/4) moist; strong coarse angular blocky structure parting to strong fine angular blocky; hard, firm, moderately sticky and moderately plastic; few fine roots; few fine and medium irregular pores; common (5 percent) masses of secondary calcium carbonate on faces of peds; calcium carbonate equivalent is 2 percent; slightly effervescent; moderately alkaline (pH 8.2); gradual smooth boundary.

2Bky1—38 to 44 inches; pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few fine and medium roots; few fine and medium irregular pores; common (5 percent) coarse very strongly cemented secondary calcium carbonate nodules; calcium carbonate equivalent is 2 percent; few (1 percent) soft fine gypsum threads; slightly effervescent; common medium distinct relict iron concentrations and very dark brown (10YR 2/2) common medium distinct soft relict manganese concentrations; moderately alkaline (pH 8.2); gradual smooth boundary.

2Bky2—44 to 50 inches; pale brown (10YR 6/3) clay loam, yellowish brown (10YR 5/4) moist; strong coarse subangular blocky structure parting to strong fine subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; few fine and medium irregular pores; common (5 percent) strongly cemented coarse secondary calcium carbonate nodules; calcium carbonate equivalent is 2 percent; common (5 percent) soft fine gypsum threads; slightly effervescent; strong brown (7.5YR 5/6) common (15 percent) very coarse relict iron concentrations, moderately alkaline (pH 8.0), clear smooth boundary.

2Bky3—50 to 55 inches; very pale brown (10YR 8/2) clay loam, light yellowish brown (10YR 6/4) moist; strong fine angular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; few fine and medium irregular pores; common (5 percent) strongly cemented coarse secondary calcium carbonate nodules; few (1 percent) soft fine gypsum threads; calcium carbonate equivalent is 2 percent; slightly effervescent; few medium distinct relict iron concentrations; moderately alkaline (pH 8.0); clear smooth boundary.

2C1—55 to 64 inches; very pale brown (10YR 7/4) clay loam, light yellowish brown (10YR 6/4) moist; moderate coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium irregular pores; calcium carbonate equivalent is 2 percent; slightly effervescent; few medium distinct relict iron concentrations; moderately alkaline (pH 8.0); clear smooth boundary.

2C2—64 to 86 inches; very pale brown (10YR 7/3) sandy clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few fine and medium irregular pores; calcium carbonate equivalent is 2 percent; slightly effervescent; few distinct irregular reddish yellow (7.5YR 6/6) relict iron concentrations, strong brown (7.5YR 4/6) moist; moderately alkaline (pH 8.0).

Type location: White Pine County, Nevada; 2 miles east of Bigspring Ranch, 0.8 mile south of the Hamlin Valley Road and 75 feet east of a jeep trail; about 2,400 feet south and 400 feet west of the northeast corner of section 34, T.10 N., R.70 E.; USGS Tweedy Wash 7.5 minute topographic quadrangle; 38 degrees, 41 minutes, 45 seconds north latitude, and 114 degrees, 06 minutes, 22 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative due to summer convection storms.

Aridic soil moisture regime bordering on xeric.

Mean annual soil temperature: 52 to 59 degrees F.

Calcic horizon thickness: 20 to 32 inches.

Depth to calcic horizon: 3 to 5 inches.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragments—Averages 25 to 35 percent, mainly strongly cemented pebble-size secondary calcium carbonate nodules, occurring mainly in the upper part.

Calcium carbonate equivalent (less than 20 mm fraction)—Averages 30 to 40 percent.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Clay content—10 to 16 percent.

Rock fragment content—5 to 10 percent.

Calcium carbonate equivalent (fine earth fraction)—30 to 35 percent.

Bk1 horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam or gravelly loam.

Clay content—15 to 24 percent.

Rock fragments—5 to 25 percent, mainly strongly cemented coarse (mostly more than 20 millimeters) secondary calcium carbonate nodules.

Calcium carbonate equivalent (fine earth fraction)—30 to 40 percent.

2Bk2 and 2Bk3 horizons:

Value—7 or 8 dry, 6 or 7 moist.

Chroma—1 through 3, dry or moist.

Texture—Clay loam, silt loam and silty clay loam.

Clay content—25 to 35 percent.

Rock fragments—20 to 50 percent, mainly strongly cemented coarse pebble-size secondary calcium carbonate nodules.

Calcium carbonate equivalent (fine earth fraction)—40 to 70 percent.

Reaction—Moderately alkaline or strongly alkaline.

2Bk4 horizon:

Value—6 through 8 dry, 5 through 7 moist.

Chroma—1 through 4, dry or moist.

Texture—Clay loam or silty clay loam.

Clay content—30 to 35 percent.

Rock fragments—0 to 10 percent, mainly strongly cemented coarse pebble-size secondary calcium carbonate nodules.

Calcium carbonate equivalent (fine earth fraction)—0 to 5 percent.

Reaction—Moderately alkaline or strongly alkaline.

2Bky horizons:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 6, dry or moist.

Texture—Silty clay loam or clay loam.

Clay content—30 to 35 percent.

Rock fragments—5 to 15 percent, mainly strongly cemented coarse pebble-size secondary calcium carbonate nodules.

Calcium carbonate equivalent (fine earth fraction)—0 to 5 percent.

Reaction—Moderately alkaline or strongly alkaline.

2C horizons:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy clay loam or clay loam.

Clay content—20 to 35 percent.

Calcium carbonate equivalent (fine earth fraction)—0 to 5 percent.

Reaction—Moderately alkaline or strongly alkaline.

Guiser series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Colluvium derived from quartzite and conglomerate.

Slope range: 30 to 75 percent.

Elevation: 7,700 to 10,650 feet.

Mean annual precipitation: 20 to 24 inches.

Mean annual air temperature: 40 to 42 degrees F.

Frost-free period: 50 to 75 days.

Native plants: White fir and quaking aspen woodland, with an understory of spike fescue, creeping barberry, and common juniper.

Taxonomic class: Loamy-skeletal, mixed, superactive Xerollic Haplocryalfs

Typical pedon: Guiser extremely cobbly loam in an area of Western White Pine County, Area, Nevada, woodland.

(Colors are for dry soil unless otherwise noted.)

Oe—0 to 1 inches; black (10YR 2/1) moist; partly decomposed needles and twigs.

A1—1 to 8 inches; brown (10YR 5/3) extremely cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure and fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, medium, and coarse roots; many very fine and fine tubular and interstitial pores; 30 percent pebbles, 30 percent cobbles, and 15 percent stones; neutral (pH 7.0); abrupt smooth boundary.

A2—8 to 16 inches; brown (10YR 5/3) extremely cobbly coarse sandy loam, brown (10YR 4/3) moist; moderate very fine subangular blocky parting to fine granular; soft, very friable, nonsticky and nonplastic; many very fine, fine, medium, and coarse roots; many very fine and fine tubular and interstitial pores; 55 percent pebbles and 30 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt—16 to 37 inches; light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, medium and coarse roots; many fine and very fine tubular pores; common faint clay films on face of ped; 35 percent pebbles and 30 percent cobbles; neutral (pH 7.2); gradual wavy boundary.

C—37 to 61 inches; very pale brown (10YR 7/3) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few fine tubular pores; 75 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.6).

Type location: White Pine County, Nevada; 5,000 feet north and 1,025 feet west of the summit of Mt. Grafton in an unsurveyed area, in T.10 N., R.64 E.; 38 degrees, 42 minutes, 18 seconds north latitude and 114 degrees, 44 minutes, 55 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter, spring and early summer, dry mid-summer and fall. Typic xeric soil moisture regime.

Mean annual soil temperature: 42 to 44 degrees F.

Mean summer soil temperature: 44 to 47 degrees F.

Reaction: Neutral or slightly alkaline.

Depth to lower boundary of argillic: 32 to 60 inches.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments —60 to 85 percent.

A1 horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Structure—Subangular blocky or granular.

A2 horizon:

Value—5 through 7 dry, 4 through 6 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Extremely cobbly sandy loam or extremely cobbly coarse sandy loam.
 Rock fragments—65 to 85 percent, dominantly cobbles.
 Structure—Subangular blocky or granular.

Bt horizon:

Value—5 through 7 dry.
 Chroma—2 through 4, dry or moist.
 Texture—Extremely cobbly loam, or extremely cobbly sandy clay loam.
 Rock fragments—60 to 80 percent, dominantly cobbles.

C horizon:

Value—6 or 7 dry.
 Chroma—2 through 4, dry or moist.
 Texture—Extremely gravelly sandy loam or extremely gravelly coarse sandy loam.
 Rock fragments—60 to 85 percent, dominantly pebbles.

Hackwood series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Alluvium and colluvium derived from quartzite, conglomerate, and igneous rocks with a component of loess.

Slope range: 30 to 50 percent.

Elevation: 7,700 to 10,650 feet.

Mean annual precipitation: 16 to 20 inches.

Mean annual air temperature: 38 to 42 degrees F.

Frost-free period: 50 to 80 days.

Native plants: Quaking aspen woodland with an understory of streambank wheatgrass, muttongrass, slender wheatgrass, and mountain brome.

Taxonomic class: Fine-loamy, mixed, superactive Pachic Haplocryolls

Typical pedon: Hackwood gravelly silt loam, in an area of Western White Pine County, Area, Nevada, forestland.

(Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with about 20 percent pebbles.

Oi—0 to 1 inch; slightly decomposed aspen leaf litter.

A1—1 to 3 inches; dark grayish brown (10YR 4/2) gravelly silt 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, fine, medium and coarse roots; common fine tubular pores; 30 percent pebbles; neutral (pH 7.3); clear smooth boundary.

A2—3 to 9 inches; brown (10YR 4/3) gravelly silt loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine, medium and coarse roots; common very fine tubular pores; common black organic coats on faces of peds; 30 percent pebbles; neutral (pH 7.3); clear wavy boundary.

A3—9 to 23 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine, fine, medium and coarse roots; many very fine tubular pores; common black organic coats on faces of peds; 25 percent pebbles; neutral (pH 7.3); clear wavy boundary.

AC—23 to 32 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; few very fine distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; few very fine, fine, medium and coarse roots; many very fine tubular pores; 20 percent pebbles; neutral (pH 7.3); clear smooth boundary.

2C—32 to 61 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 4/3) moist; common very fine distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine, fine, medium, and coarse roots; many very fine tubular pores; 40 percent pebbles; neutral (pH 7.3).

Type location: White Pine County, Nevada; about 4.5 miles northwest of the Ward Charcoal Ovens State Park in an aspen grove on the Egan Range; about 2,800 feet east and 300 feet north of the projected southwest corner of section 17, T.14 N., R.63 E.; USGS Ward Mountain 7.5 minute topographic quadrangle; 39 degrees, 4 minutes, 13 seconds north latitude and 114 degrees, 55 minutes, 10 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist late fall through summer, dry September and October; additional soil moisture is supplied by lateral water movement in the lower part of the control section or substratum. This additional moisture is sporadic and dependent on snowpack. Xeric moisture regime that borders on aridic.

Mean annual soil temperature: 38 to 44 degrees F.

Mean summer soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 16 to 35 inches.

Depth to very gravelly horizons: 30 to 49 inches.

Reaction: Neutral or slightly acid, decreasing with depth.

Particle size control section:

Clay content—Averages 18 to 30 percent.

Rock fragments—Averages 15 to 35 percent, mainly pebbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3 dry, 1 or 2 moist.

AC horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Silt loam, loam, gravelly silt loam, and gravelly loam.

Structure—Subangular blocky or massive.

Consistence—Slightly hard or hard, dry; very friable or friable, moist; slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

2C horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Gravelly clay loam, very gravelly loam, very gravelly clay loam, or very gravelly silty clay loam.

Other features—Pores are lined with faint or distinct silt coats or uncoated sand grains. Some pedons have few to common fine distinct or prominent yellowish brown (10YR 5/6) dry and dark yellowish brown (10YR 4/4) moist redox concentrations of iron. Some pedons have few manganese coats on pebbles and lining pores.

Hamtah series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: High.

Landform: Hills and mountains.

Parent material: Colluvium and residuum derived from welded tuff.

Slope range: 15 to 50 percent.

Elevation: 6,200 to 7,850 feet.

Mean annual precipitation: 16 to 20 inches.

Mean annual air temperature: 40 to 43 degrees F.

Frost-free period: 40 to 70 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, antelope bitterbrush, and mountain big sagebrush.

Taxonomic class: Clayey-skeletal, smectitic, frigid Vitrandic Argixerolls

Typical pedon: Hamtah very stony ashy sandy clay loam in an area of Meadow Valley Area, Nevada-Utah, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by 20 percent pebbles, 10 percent cobbles and 10 percent stones. Lithology of the fragments is welded tuff.

A1—0 to 10 inches; dark grayish brown (10YR 4/2) very stony ashy sandy clay loam, very dark brown (10YR 2/2) moist; moderate fine and medium granular structure; soft, very friable, moderately sticky and moderately plastic; many very fine, and few fine, medium, and coarse roots; many very fine interstitial pores; 20 percent pebbles, 10 percent cobbles and 10 percent stones; slightly acid (pH 6.5); gradual smooth boundary.

A2—10 to 21 inches; dark grayish brown (10YR 4/2) gravelly ashy sandy clay loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, and few fine, medium, and coarse roots; many very fine interstitial, and many very fine, and few fine tubular pores; 25 percent pebbles and 5 percent cobbles; neutral (pH 6.6); gradual smooth boundary.

Bt1—21 to 33 inches; brown (7.5YR 5/2) gravelly ashy clay loam, brown (7.5YR 4/2) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, and few fine and medium roots; many very fine interstitial and tubular pores; many distinct clay films lining pores and on faces of peds and as bridges between sand grains; 30 percent pebbles; neutral (pH 6.8); gradual smooth boundary.

Bt2—33 to 41 inches; pinkish gray (7.5YR 6/2) very gravelly ashy clay loam, brown (7.5YR 4/2) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; hard, friable, very sticky and very plastic; common very fine roots; many very fine interstitial and tubular pores; many distinct clay films lining pores and on faces of peds and as bridges between sand grains; 50 percent pebbles and 5 percent cobbles; neutral (pH 6.6); clear smooth boundary.

Bt3—41 to 60 inches; variegated brown (7.5YR 5/4), strong brown (7.5YR 5/6), and white (10YR 8/1) gravelly ashy clay loam, dark brown (7.5YR 3/3), brown (7.5YR 5/2), and white (10YR 8/1) moist; strong coarse subangular blocky structure parting to moderate fine and very fine angular blocky; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; many distinct clay films along fracture planes of pararock fragments; 30 percent gravel, 20 percent paragravel and 5 percent paracobbles; neutral (pH 7.0).

Type location: Lincoln County, Nevada; about 7 miles west of Meadow Valley Wash at the Confidence Mine; approximately 900 feet west and 1,300 feet north of the southeast corner of section 17, T.3 N., R.71 E.; USGS Rice Mountain 7.5 minute topographic quadrangle; 38 degrees, 6 minutes, 54 seconds north latitude and 114 degrees, 3 minutes, 8 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section during winter and spring, dry during summer and fall and dry in all parts for 45 consecutive days following the summer solstice; intermittently moist in some part of the moisture control section for 10 to 20 days cumulative between July and September following summer convection storms; Typic xeric soil moisture regime.

Mean annual soil temperature: 42 to 45 degrees F.

Mean summer soil temperature: 60 to 62 degrees F.

Mollic epipedon thickness: 20 to 26 inches.

Depth to base of argillic horizon: 48 to more than 60 inches.

Depth to soft bedrock: Greater than 60 inches.

Minerology: 20 to 50 percent volcanic glass and glass aggregates in the .02 to 2 millimeter fraction in the upper part, decreasing with depth.

Particle size control section:

Clay content—35 to 50 percent.

Rock fragments—35 to 50 percent, mainly pebbles and cobbles. Lithology of fragments is volcanic rocks such as welded tuff.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2, dry or moist.

Organic matter content—2 to 6 percent.

Bt1 and Bt2 horizons:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Ashy clay loam or clay.

Clay content—35 to 50 percent.

Structure—Weak through strong, fine through coarse subangular blocky or prismatic.

Bt3 horizon:

Hue—5YR through 10YR.

Value—5 through 8 dry, and 3 through 8 moist.

Chroma—1 through 6, dry or moist.

Clay content—27 to 35 percent.

Rock fragments—15 to 35 percent, mainly gravel. 10 to 40 percent paragravel and paracobbles are present in most pedons.

Other features—This horizon has up to 50 percent discontinuous areas of the original rock structure visible as pararock fragments that parts readily to weak or moderate fine and medium angular or subangular blocky structure. Its lower boundary is diffuse and grades gradually to hard bedrock.

Handpah series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from volcanic rocks.

Slope range: 0 to 30 percent.

Elevation: 4,250 to 6,450 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 55 degrees F.

Frost-free period: 110 to 150 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Xeric Argidurids

Typical pedon: Handpah gravelly sandy loam in a map unit of 1132, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 60 percent pebbles, 10 percent cobbles, and 5 percent stones.

- A—0 to 2 inches; light gray (10YR 7/2) gravelly sandy loam, brown (10YR 4/3) moist; strong very thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; many fine and medium vesicular pores; 20 percent pebbles; very slightly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.
- Bt1—2 to 4 inches; pale brown (10YR 6/3) gravelly clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; common fine and few medium irregular and interstitial pores; 20 percent pebbles; common faint clay films on faces of peds; very slightly effervescent; slightly alkaline (pH 7.7); clear smooth boundary.
- Bt2—4 to 8 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common fine and medium roots; few very fine and common fine irregular and interstitial pores; 25 percent pebbles; common distinct clay films on faces of peds; slightly effervescent; slightly alkaline (pH 7.7); clear smooth boundary.
- Bqk—8 to 14 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few fine and common medium roots; few fine irregular pores; 45 percent pebbles; common (4 percent) secondary silica and secondary calcium carbonate concretions on bottom of rock fragments and common (10 percent) secondary calcium carbonate concretions around rock fragments; strongly effervescent; strongly alkaline (pH 8.6); very abrupt wavy boundary.
- Bqkm1—14 to 18 inches; cemented material; massive; very rigid; indurated with secondary silica and calcium carbonate; violently effervescent; strongly alkaline (pH 8.9).
- Bqkm2—18 to 60 inches; cemented material; massive; extremely hard, slightly rigid; strongly cemented with secondary silica and calcium carbonate; violently effervescent.

Type location: Lincoln County, Nevada; approximately 4.5 miles west of White River Narrows, along the base of hills near the Seaman Range; 2,490 feet north and 1,860 feet east of the southwest corner of section 23, T.1 N., R.61 E.; USGS White River Narrows 7.5 minute topographic quadrangle; 37 degrees, 50 minutes, 44 seconds north latitude and 115 degrees, 6 minutes, 37 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, mostly dry in summer and fall except intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 53 to 57 degrees F.

Ochric epipedon thickness: 2 to 10 inches.

Depth to duripan: 14 to 20 inches.

Particle size control section:

Clay content—Averages 25 to 35 percent.

Rock fragments—Averages 15 to 30 percent, mainly gravel. Lithology of fragments are mainly volcanic rocks such as rhyolite or basalt.

A horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent to slightly effervescent.

Calcium carbonate equivalent—0 to 5 percent in the less than 2mm fraction.

Bt horizons:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly clay loam, gravelly loam, or gravelly sandy clay loam; some pedons have thin subhorizons of gravelly clay.

Structure—Prismatic or weak or moderate, subangular blocky.

Consistence—Slightly hard or hard, slightly sticky or moderately sticky and slightly plastic or moderately plastic.

Reaction—Slightly alkaline or strongly alkaline.

Effervescence—Noneffervescent to slightly effervescent; some pedons may be strongly effervescent in lower part.
Calcium carbonate equivalent—0 to 10 percent in the less than 2mm fraction.

Bqk horizon:

Chroma—3 or 4, dry or moist.
Structure—Massive or subangular blocky.
Consistence—Slightly hard or hard, dry, friable or firm, moist, and nonsticky or slightly sticky, wet.
Reaction—Slightly alkaline or strongly alkaline.
Calcium carbonate equivalent—10 to 20 percent in the less than 2mm fraction.

Bqkm1 and Bqkm2 horizons:

Cementation—Very strongly cemented or indurated in the Bqkm1 horizon; some pedons have weakly cemented to strongly cemented subhorizons within the duripan.
Other features—The duripan is fractured in some pedons.

Hardol series

Depth class: Very deep.
Drainage class: Well drained.
Permeability: Moderate.
Runoff: High.
Landform: Mountains.
Parent material: Colluvium and residuum derived from limestone and dolomite.
Slope range: 15 to 50 percent.
Elevation: 7,500 to 9,200 feet.
Mean annual precipitation: 20 to 30 inches.
Mean annual air temperature: 39 to 43 degrees F.
Frost-free period: 50 to 70 days.
Native plants: Bluebunch wheatgrass, Letterman's needlegrasses, and mountain big sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic Pachic Calcicryolls

Typical pedon: Hardol very gravelly silt loam in an area of map unit Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 20 percent pebbles, 20 percent cobbles, and 2 percent stones. A discontinuous layer about 1 inch thick of slightly decomposed needles, leaves, and twigs is also present.

A—0 to 8 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine and medium, and common coarse roots; common fine tubular pores; 30 percent pebbles, 10 percent cobbles, and 5 percent stones; slightly effervescent; slightly alkaline (pH 7.7); clear smooth boundary.

Bk1—8 to 12 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine, fine and medium, and common coarse roots; common fine tubular pores; 40 percent pebbles and 2 percent cobbles; few fine concretions of secondary calcium carbonate on bottom of rock fragments; slightly effervescent; slightly alkaline (pH 7.7); clear wavy boundary.

Bk2—12 to 33 inches; dark grayish brown (10YR 4/2) extremely gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, medium and common coarse roots; common fine tubular pores; 75 percent pebbles, 5 percent cobbles, and 2 percent stones; few fine threads and masses of secondary calcium carbonate and common pendants of secondary calcium carbonate on bottom of rock fragments; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bk3—33 to 60 inches; dark grayish brown (10YR 4/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, slightly sticky and nonplastic; common fine and medium and few very fine and coarse

roots; many fine tubular and interstitial pores; 60 percent pebbles, 20 percent cobbles, and 5 percent stones; common fine threads and masses of secondary calcium carbonate, common pendants of secondary calcium carbonate on bottom of rock fragments, and common coats on top of rock fragments; strongly effervescent; moderately alkaline (pH 8.0).

Type location: White Pine County, Nevada; about 6 miles east of Lund near Sawmill Canyon in the Egan Range; about 1,400 feet south and 2,100 feet west of the northeast corner of section 21, T.12 N., R.63 E.; USGS Sawmill Canyon 7.5 minute topographic quadrangle; 38 degrees, 53 minutes, 24 seconds north latitude and 114 degrees, 53 minutes, 44 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist, moist late fall through early summer, dry mid-summer through mid-fall. Typic xeric moisture regime.

Soil temperature: 38 to 45 degrees F.

Mean summer soil temperature: 43 to 47 degrees F.

Depth to base of mollic epipedon: 30 inches or more.

Depth to calcic horizon: 30 to 40 inches.

Calcium carbonate equivalent: 40 to 50 percent in the less than 20 millimeter fraction.

Organic matter content: 1 to 3 percent.

Particle size control section:

Clay content—20 to 27 percent.

Rock fragments—Averages 60 to 85 percent, with 40 to 70 percent pebbles and 5 to 25 percent cobbles and stones.

Lithology of rock fragments are limestone or dolomite.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Bk horizons:

Value—4 through 6 dry, 2 through 5 moist.

Chroma—2 through 4, dry or moist.

Structure—Weak to moderate, fine or medium, subangular blocky or massive.

Consistence—Soft to hard dry, very friable or friable moist, nonplastic or slightly plastic wet.

Reaction—Slightly alkaline or moderately alkaline in the Bk1 and Bk2 horizons and moderately alkaline in the Bk3 horizon.

Calcium carbonate equivalent (fine-earth fraction)—4 to 10 percent in the Bk1 horizon, 10 to 20 percent in the Bk2 horizon, and 15 to 25 percent in the Bk3 horizon.

Identifiable secondary calcium carbonates—Evidence of secondary calcium carbonate occurs as fine threads and masses in peds and as concretions or pendants on rock fragments. Few to common (less than 5 percent) in the Bk1 and Bk2, and common to many (5 to 25 percent) in the Bk3 horizon.

Other features—Only the Bk3 horizon consistently qualifies as part of the calcic horizon.

Hardzem series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and shale.

Slope range: 15 to 75 percent.

Elevation: 6,850 to 10,650 feet.

Mean annual precipitation: 25 to 35 inches.

Mean annual air temperature: 39 to 43 degrees F.

Frost-free period: 50 to 70 days.

Native plants: White fir, limber pine, and scattered bristlecone pine woodland, with an understory of spike fescue, creeping barberry and common juniper.

Taxonomic class: Loamy-skeletal, mixed, superactive, Xeric Haplocryalfs

Typical pedon: Hardzem channery loam in an area of map unit Western White Pine County, Area, Nevada, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 5 percent pebbles and less than one-half inch of partially decomposed needles and twigs.

A—0 to 1 inch; brown (10YR 5/3) channery 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 channers; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1—1 to 8 inches; pink (7.5YR 7/4) very channery loam, brown (7.5YR 4/4) moist; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine, medium, and coarse, and many very fine roots; many very fine interstitial pores; few faint clay films on faces of peds; 35 percent channers; neutral (pH 7.2); clear wavy boundary.

Bt2—8 to 21 inches; brownish yellow (10YR 6/6) extremely channery clay loam, yellowish brown (10YR 5/6) moist; strong very fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, fine, medium, and coarse roots; common very fine interstitial pores; common faint clay films on faces of peds; 60 percent channers and 20 percent flagstones; slightly alkaline (pH 7.6); abrupt irregular boundary.

Cr—21 to 52 inches; highly fractured soft shale; clear irregular boundary.

R—52 inches; hard fractured calcareous shale.

Type location: White Pine County, Nevada; about 2 miles northeast of Telegraph Peak in a nonsectionized area; 2,600 feet north and 2,500 feet east of the projected southwest corner of section 5, T.21 N., R.63 E.; USGS Telegraph Peak 7.5 minute topographic quadrangle; 39 degrees, 42 minutes, 57 seconds north latitude and 114 degrees, 52 minutes, 33 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist, moist late fall through early summer, dry mid-summer through mid-fall. Typic xeric soil moisture regime.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 43 to 47 degrees F.

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 soft sedimentary rocks such as calcareous shale.

Particle size control section:

Clay content—20 to 30 percent.

Rock fragments—45 to 80 percent, dominantly channers, but including 5 to 15 percent flagstones. Lithology of fragments are hard sedimentary rocks such as limestone.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt horizons:

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 through 6, dry or moist.

Texture—Very channery loam, extremely channery loam, or extremely channery clay loam.

Structure—Weak to strong, very fine to coarse subangular blocky.

Consistence—Soft or slightly hard dry, slightly sticky or moderately sticky and slightly plastic or moderately plastic wet.

Reaction—Neutral or slightly alkaline.

Other features—Some pedons have Bt2 horizons with identifiable secondary carbonates segregated as coats and pendants on bottoms of rock fragments.

Haunchee series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone, shale, and dolomite.

Slope range: 15 to 75 percent.

Elevation: 6,700 to 10,100 feet.

Mean annual precipitation: 12 to 20 inches.

Mean annual air temperature: 36 to 44 degrees F.

Frost-free period: 30 to 70 days.

Native plants: Bluebunch wheatgrass, curlleaf mountainmahogany, and mountain big sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic Lithic Cryrendolls

Typical pedon: Haunchee very cobbly loam in an area of map unit 1435, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 30 percent pebbles and 30 percent cobbles.

A1—0 to 7 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; many very fine and common fine interstitial pores; 30 percent pebbles and 25 percent cobbles; strongly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

A2—7 to 19 inches; brown (10YR 5/3) very gravelly loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium, and many fine roots; common very fine and fine interstitial pores; 35 percent pebbles and 15 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); very abrupt wavy boundary.

R—19 inches; fractured limestone.

Type location: Lincoln County, Nevada; about 0.5 mile southeast of Patterson Peak and 50 feet west of jeep trail, USGS Milk Ranch Spring 7.5 minute topographic quadrangle; 38 degrees, 36 minutes, 57 seconds north latitude and 114 degrees, 43 minutes, 11 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist, moist mid-fall through early summer, dry mid-summer through early fall.

Soil temperature: 42 to 46 degrees F.

Summer soil temperature: 55 to 59 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches.

Reaction: Slightly alkaline or moderately alkaline in the surface layer and moderately alkaline or strongly alkaline below.

Effervescence: Strongly effervescent or violently effervescent throughout.

Calcium carbonate equivalent: 40 to 70 percent, in the less than 20 mm fraction.

Particle size control section:

Clay content—10 to 20 percent.

Texture—Very gravelly very fine sandy loam, and very gravelly loam. In some pedons, very cobbly loam or very stony loam is common in the surface layer.

Rock fragments—35 to 60 percent mainly pebbles with up to 20 percent stones and cobbles in some pedons.

A horizon:

Hue—10YR or 7.5YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Other features—Some pedons have a thin C horizon above the bedrock.

Heist series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very low.

Landform: Fan skirts.

Parent material: Alluvium derived from welded tuff and some limestone.

Slope range: 0 to 8 percent.

Elevation: 5,700 to 7,050 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 100 to 135 days.

Native plants: Basin wildrye, Indian ricegrass, needleandthread, Wyoming big sagebrush, and winterfat.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Xeric Haplocambids

Typical pedon: Heist loamy sand in an area of map unit 1100, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 8 inches; pale brown (10YR 6/3) loamy sand, brown (10YR 4/3) moist; moderate coarse platy structure parting to weak medium subangular blocky; soft, very friable, nonsticky, nonplastic; many very fine roots; few fine tubular pores; slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bw—8 to 20 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine and few coarse roots; few fine tubular pores; slightly effervescent; moderately alkaline (pH 8.2); gradual wavy boundary.

C—20 to 60 inches; light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky, nonplastic; few fine roots; few fine tubular pores; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; about 1,000 feet northwest of Hamlin Well and Corral in Hamlin Valley; USGS Hamlin Well 7.5 minute topographic quadrangle; 38 degrees, 24 minutes, 29 seconds north latitude and 114 degrees, 05 minutes, 24 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry 55 to 70 percent of the time when the soil temperature is above 41 degrees F.

Soil temperature: 48 to 52 degrees F.

Soil moisture regime: Aridic bordering on xeric.

Particle size control section:

Clay content—8 to 18 percent.

Texture—Fine sandy loam or sandy loam

Rock fragments—0 to 15 percent.

A horizon:

Hue—7.5YR or 10YR.

Value—5 through 7 dry, 3 through 5 moist. The value of 5 dry and 3 moist occurs in the upper 4 inches of this horizon.

Chroma—2 through 4, dry or moist

Texture—Fine sandy loam, sandy loam, or loamy sand.

Rock fragments—0 to 15 percent.

Effervescence—Slightly effervescent to violently effervescent. Some pedons lack effervescence in the upper 1 to 3 inches.

Reaction—Neutral to moderately alkaline.

Bw and C horizons:

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam or sandy loam above 40 inches and includes loamy sand below 40 inches.

Rock fragments—Below 40 inches rock fragments average less than 35 percent, but range from 0 to 60 percent in any subhorizon.

Carbonates—Present as weak cementation or other visible forms in some part of the horizon.

Reaction—Slightly alkaline to strongly alkaline.

Consistence—Soft to hard, dry and very friable or friable moist, slightly plastic or nonplastic wet.

Calcium carbonate equivalent—1 to 15 percent of the less than 20 mm fraction.

Heusser series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from quartzite.

Slope range: 8 to 30 percent.

Elevation: 6,500 to 8,500 feet.

Mean annual precipitation: 14 to 16 inches.

Mean annual air temperature: 42 to 45 degrees F.

Frost-free period: 80 to 100 days.

Native plants: Bluebunch wheatgrass, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Clayey-skeletal, smectitic, frigid Aridic Palexerolls

Typical pedon: Heusser extremely gravelly loam in an area of map unit 1270, rangeland. (Colors are for dry soil unless otherwise noted). The surface is partially covered with 35 percent pebbles, 20 percent cobbles and 10 percent stones. Lithology of the rock fragments is quartzite

A1—0 to 5 inches; brown (10YR 4/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine, fine, and common medium roots; common fine tubular pores; 40 percent pebbles, 15 percent cobbles, and 5 percent stones; neutral (pH 6.8); clear wavy boundary.

A2—5 to 12 inches; brown (10YR 4/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, and few coarse roots;

common fine tubular pores; 60 percent pebbles, 10 percent cobbles, and 5 percent stones; neutral (pH 6.6); clear wavy boundary.

BA—12 to 24 inches; strong brown (7.5YR 5/6) extremely gravelly loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine tubular pores; 55 percent pebbles and 5 percent cobbles; neutral (pH 6.6); abrupt wavy boundary.

Bt1—24 to 38 inches; strong brown (7.5YR 5/6) extremely gravelly clay, strong brown (7.5YR 4/6) moist; red (2.5YR 5/6) on exteriors of peds, red (2.5YR 4/6) moist; weak fine angular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common fine tubular pores; common faint clay films on faces of peds; 55 percent pebbles and 5 percent cobbles; neutral (pH 6.6); clear wavy boundary.

Bt2—38 to 60 inches; strong brown (7.5YR 5/6) extremely gravelly clay, strong brown (7.5YR 4/6) moist; red (2.5YR 5/6) on exteriors of peds, red (2.5YR 4/6) moist; weak fine angular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common fine tubular pores; common faint clay films on faces of peds; 55 percent pebbles and 5 percent cobbles; neutral (pH 6.6).

Type location: Lincoln County, Nevada; approximately 2.1 miles northeast of Cave Spring on jeep trail; 2,670 feet south and 240 feet west of the northeast corner of section 10, T.9 N., R.64 E.; USGS Parker Station 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, and 10 seconds north latitude and 114 degrees, 46 minutes, and 12 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 16 inches.

Depth to abrupt increase in clay: 12 to 30 inches.

Particle size control section:

Percent clay—40 to 55 percent.

Rock fragments—35 to 65 percent, mainly pebbles.

Reaction—Neutral or slightly alkaline.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

BA horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 through 6, dry or moist.

Clay content—15 to 22 percent.

Rock fragments—35 to 65 percent, mainly pebbles.

Bt horizons:

Hue—7.5YR on interiors of peds; 10YR through 2.5YR on faces of peds.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 through 6, dry or moist.

Structure—Angular or subangular blocky.

Consistence—Moderately sticky or very sticky and moderately plastic or very plastic.

Clay films—Faint or distinct.

Highup series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Colluvium and residuum derived from limestone.

Slope range: 15 to 75 percent.

Elevation: 6,300 to 9,400 feet.

Mean annual precipitation: 16 to 20 inches.

Mean annual air temperature: 42 to 45 degrees F.

Frost-free period: 70 to 90 days.

Native plants: Bluebunch wheatgrass, muttongrass, mountain big sagebrush and curleaf mountainmahogany.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Typic Calcixerolls

Typical pedon: Highup extremely gravelly silt loam in an area of map unit 1485, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is covered with approximately 65 percent pebbles.

A1—0 to 2 inches; brown (10YR 4/3) extremely gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 65 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

A2—2 to 5 inches; brown (10YR 4/3) extremely gravelly silt loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 60 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk1—5 to 16 inches; brown (10YR 4/3) very gravelly silt loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; common very fine and fine tubular pores; many prominent secondary calcium carbonate concretions around rock fragments and pendants on bottom of rock fragments; 50 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk2—16 to 24 inches; brown (10YR 5/3) extremely gravelly silt loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine through medium roots; few very fine and fine tubular pores; many prominent secondary calcium carbonate concretions around rock fragments and pendants on bottom of rock fragments; 65 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk3—24 to 33 inches; pale brown (10YR 6/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; few very fine and fine tubular pores; many prominent secondary calcium carbonate concretions around rock fragments and pendants on bottom of rock fragments; 65 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

R—33 inches; hard limestone bedrock.

Type location: Lincoln County, Nevada, approximately 7 miles west of Pioche on Highland Peak; 1,780 feet west and 2,170 feet north of the southeast corner of section 28, T.1 N., R.66 E; USGS Highland Peak 7.5 minute topographic quadrangle; 37 degrees, 54 minutes, 57 seconds north latitude and 114 degrees, 34 minutes, 47 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall except intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. Xeric soil moisture regime bordering on aridic.

Soil temperature: 43 to 47 degrees F.

Thickness of the mollic epipedon: 15 to 20 inches commonly includes the upper part of the Bk horizons.

Calcium carbonate equivalent: 20 to 35 percent in the < 2mm fraction, and 40 to 60 in the less than 20 mm fraction.

Depth to bedrock: 0 to 40 inches.

Depth to calcic horizon: 5 to 11 inches.

Particle size control section:

Clay content—Averages 12 to 18 percent.

Rock fragments—50 to 75 percent, mostly limestone pebbles.

A horizons:

Hue—7.5YR or 10YR

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 4 percent.

Bk horizons:

Hue—10YR or 7.5YR.

Value—4 through 7 dry, 3 through 6 moist.

Chroma—3 or 4 throughout and 2 through 4 in the upper part.

Texture of fine earth—Silt loam or loam.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Rock fragments—50 to 75 percent, mainly limestone pebbles.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Organic matter content—1 to 3 percent in the upper part and less than 1.5 percent in the lower part.

Hyzen series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 30 to 75 percent.

Elevation: 7,250 to 8,850 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 39 to 43 degrees F.

Frost-free period: 70 to 90 days.

Native plants: Singleleaf pinyon and Utah juniper woodland with an understory of bluebunch wheatgrass, Indian ricegrass, bluegrass, bottlebrush squirreltail, and black sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Lithic Haploxerolls

Typical pedon: Hyzen extremely stony loam in an area of Western White Pine County, Area, Nevada, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 25 percent pebbles and 5 percent cobbles.

A1—0 to 2 inches, grayish brown (10YR 5/2) extremely stony loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; few very fine and fine vesicular and interstitial pores; 40 percent pebbles, 10 percent cobbles and 15 percent stones; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—2 to 12 inches, brown (10YR 5/3) extremely stony loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many fine through coarse roots; common fine and medium tubular pores; 20 percent pebbles, 20 percent cobbles and 20 percent stones; violently effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.

R—12 inches; gray (10YR 6/1) fractured limestone; fractures partly filled with secondary calcium carbonate; few coarse roots in fractures.

Type location: White Pine County, Nevada; on Squaw Peak; about 2,480 feet west and 2,800 feet south of the projected northeast corner of section 8 T.16 N., R.63 E.; 39 degrees, 16 minutes, 01 second north latitude and 114 degrees, 54 minutes, 27 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter, spring and early summer, dry in late summer and fall. Aridic soil moisture regime bordering on xeric.

Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 6 to 14 inches.

Depth to bedrock: 6 to 14 inches.

Calcium carbonate equivalent: 40 to 60 percent of the less than 20 millimeter fraction.

Particle size control section:

Clay content—Averages 10 to 18 percent.

Rock fragments—60 to 85 percent with more than half cobbles and stones.

A horizons:

Value—4 or 5, dry.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 5 percent.

Jarab series

Depth class: Shallow to a duripan.

Drainage class: Well.

Permeability: Moderately slow.

Runoff: Medium and high.

Landform: Fan remnants.

Parent material: Alluvium derived from quartzite and limestone.

Slope range: 2 to 15 percent.

Elevation: 5,800 to 7,500 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 50 to 53 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Bluebunch wheatgrass, Indian ricegrass, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Haploduridic Durixerolls

Typical pedon: Jarab very gravelly sandy loam in an area of map unit 4002, woodland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches, grayish brown (10YR 5/2) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; common very fine tubular pores; 35 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt, smooth boundary.

Bqk—4 to 13 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular and interstitial pores; common (10 percent) faint secondary calcium carbonate concretions around rock fragments and common (5 percent) secondary silica and calcium carbonate pendants on bottom of rock fragments; 40 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5); abrupt, wavy boundary.

Bqkm—13 to 40 inches; very pale brown (10YR 8/2), cemented material, light gray (10YR 7/2) moist; massive; extremely hard, slightly rigid; continuous indurated thin (1/32 to 1/8 inch) silica laminae, over strongly cemented material; violently effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; about 0.5 mile south of South Milk Ranch Well and 40 feet west of the dirt road; USGS Dutch John Mountain 7.5 minute topographic quadrangle; 38 degrees, 28 minutes, 52 seconds north latitude and 114 degrees, 41 minutes, 20 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter or spring, dry in summer and fall except for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime bordering xeric.

Soil temperature: 53 to 57 degrees F.

Depth to duripan: 10 to 20 inches.

Mollic epipedon thickness: 7 to 10 inches thick.

Effervescence: Strongly effervescent or violently effervescent.

Profile reaction: Slightly alkaline to strongly alkaline

Control section:

Clay content—18 to 35 percent.

Rock fragments—35 to 50 percent, mainly limestone and quartzite pebbles and strongly to indurated pan fragments.

A horizons:

Hue—10YR or 7.5YR

Value—4 or 5, dry.

Chroma—2 or 3, dry or moist.

Bqk horizon:

Hue—10YR, 7.5YR or 5YR

Value—5 through 8 dry, 3 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam or clay loam.

Clay content—20 to 35 percent.

Rock fragments—35 to 50 percent, mainly limestone and quartzite pebbles and strongly cemented to indurated pan fragments.

Structure—Subangular blocky, or massive.

Consistence—Soft to hard, dry, very friable to firm, moist, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Kolda series

Depth class: Very deep.

Drainage class: Very poorly drained.

Permeability: Slow.

Runoff: Very high.

Landform: Lake plains and basin floors.

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 5,900 to 6,750 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Sedges, Baltic rush, and bluegrass.

Taxonomic class: Fine, smectitic, calcareous, mesic Typic Endoaquolls

Typical pedon: Kolda silt loam in an area of Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, black (10YR 2/1) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; common very fine tubular pores; very strongly alkaline (pH 9.2); clear wavy boundary.

A2—6 to 22 inches; very dark grayish brown (10YR 3/2) silt loam, black (10YR 2/1) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; strongly effervescent; very strongly alkaline (pH 9.4); gradual irregular boundary.

2Bkg1—22 to 39 inches; light gray (5Y 7/1) clay, light olive gray (5Y 6/2) moist; moderate medium prismatic structure parting to fine angular blocky; hard, firm, very sticky and very plastic; common fine and medium roots; common fine tubular pores; few fine prominent light yellowish brown (10YR 6/4) moist masses of iron accumulation; common distinct very dark grayish brown (10YR 3/2) tongues of silt loam filling cracks in the upper 8 inches; few distinct coats of secondary calcium carbonate on faces of peds; violently effervescent; strongly alkaline (pH 9.0); gradual wavy boundary.

2Bkg2—39 to 60 inches; light gray (5Y 7/1) clay, grayish brown (2.5Y 5/2) moist; moderate medium prismatic structure; hard, firm, very sticky and very plastic; few fine roots; few very fine tubular pores; few distinct coats of secondary calcium carbonate on faces of peds; violently effervescent; very strongly alkaline (pH 9.2).

Type location: White Pine County, Nevada; in the northeastern portion of Newark Valley about 5 miles west of Mooney Basin Summit; 1,200 feet east and 500 feet north of the southwest corner of section 35, T.23 N., R.56 E.; USGS Cold Creek Ranch 7.5 minute topographic quadrangle; 39 degrees, 48 minutes, 55 seconds north latitude and 115 degrees, 38 minutes, 25 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Saturated below the soil surface due to high water table in February to July; dry in the upper part of the profile from August through September. Aquic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 23 inches.

Depth to lacustrine deposits: 10 to 23 inches.

Particle size control section:

Clay content—Averages 35 to 50 percent.

Textures—Silt loam in the upper part and clay or silty clay in the lower part

A1 horizon:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Clay content—10 to 25 percent.

Organic matter content—3 to 15 percent.

Reaction—Moderately alkaline to very strongly alkaline.

Calcium carbonate equivalent—1 to 10 percent.

A2 horizon:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Clay content—20 to 27 percent.

Organic matter content—1 to 6 percent.

Reaction—Moderately alkaline to very strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—1 to 15 percent.

Other features—Some pedons have few prominent redoximorphic concentrations.

2Bkg horizons:

Hue—10YR, 2.5Y or 5Y.

Value—6 through 8 dry, 3 through 7 moist.

Chroma—1 through 3, dry or moist.

Texture—Clay or silty clay; some pedons have thin subhorizons of silty clay loam.

Clay content—40 to 50 percent.

Structure—Moderate very fine to medium angular blocky, medium prismatic, or massive.

Reaction—Strongly alkaline or very strongly alkaline.

Salinity (EC)—4 to 8 mmhos/cm.

Sodicity (SAR)—1 to 12.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—5 to 40 percent.

Identifiable secondary carbonates—Some pedons have up to 20 percent nodules in thin subhorizons less than 6 inches thick. Filaments and coats on peds are common in some pedons.

Redoximorphic features—Distinct or prominent redox concentrations of iron are in the 2Bkg horizon; some pedons also have redox depletions.

Koyen series

Depth class: Very deep.

Drainage class: Well.

Permeability: Moderately rapid.

Runoff: Very low and low.

Landform: Fan remnants, fan skirts, inset fans, basin floors, basin-floor remnants, and sand sheets.

Parent material: Alluvium derived from volcanic rocks with a high component of loess.

Slope range: 0 to 8 percent.

Elevation: 4,600 to 6,000 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 52 to 57 degrees F.

Frost-free period: 120 to 160 days.

Native plants: Indian ricegrass, forwing saltbush, and winterfat. Other areas may support desert needlegrass, spiny hopsage, and Nevada ephedra.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Typic Haplocambids

Typical pedon: Koyen loamy fine sand in an area of map unit 1074, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 5 percent pebbles.

A—0 to 4 inches; light yellowish brown (10YR 6/4) loamy fine sand, yellowish brown (10YR 5/6) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; common fine, medium and coarse roots; many very fine and fine vesicular pores; moderately alkaline (pH 8.4); clear smooth boundary.

Bw—4 to 15 inches; light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/6) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine and medium, and few coarse roots; many very fine irregular pores and common very fine and fine tubular pores; 10 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bk1—15 to 34 inches; light gray (10YR 7/2) fine sandy loam, pale brown (10YR 6/3) moist; massive; hard, firm, slightly sticky and slightly plastic; many fine and medium roots; many very fine and fine tubular pores and many very fine irregular pores; 10 percent pebbles; few (2 percent) thin secondary calcium carbonate concretions on bottom of rock fragments; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bk2—34 to 60 inches; very pale brown (10YR 7/3) fine sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, firm; nonsticky and slightly plastic; common fine and medium roots; common very fine and fine tubular pores; 10 percent pebbles; few (2 percent) faint secondary calcium carbonate concretions on bottom of rock fragments; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; USGS Deadman Spring NE 7.5 minute topographic quadrangle; 37 degrees, 57 minutes, 14 seconds north latitude and 114 degrees, 45 minutes, 31 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and September due to convection storms. Typic aridic soil moisture regime.

Soil temperature: 53 to 59 degrees F.

Depth to Bk horizon: 14 to 21 inches.

Reaction: Moderately alkaline or strongly alkaline, being most alkaline in the Bk horizon.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—Average 10 to 25 percent but any one horizon can contain up to 40 percent pebbles.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 6, dry or moist.

Bw horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 6, dry or moist.

Structure—Very weak or weak, fine medium or coarse subangular blocky.

Texture—Sandy loam, some pedons have strata of fine sandy loam, loam, or loamy sand.

Effervescence—Noneffervescent except in lower part subhorizons that are slightly effervescent.

Calcium carbonate equivalent—0 to 15 percent of the less than 2 mm fraction.

Bk horizons:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Strongly effervescent or violently effervescent.

Structure—Subangular blocky or massive.

Texture—Sandy loam with some pedons having strata of fine sandy loam, loam, or loamy sand.

Consistence—Soft to hard, dry, very friable to firm, moist, and nonsticky or slightly sticky and nonplastic or slightly plastic, wet.

Secondary calcium carbonate—0 to 5 percent, as filaments.

Calcium carbonate equivalent—10 to 30 percent of the less than 2 mm fraction.

Kunzler series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium.

Landform: Fan skirts.

Parent material: Alluvium derived from sandstone and limestone.

Slope range: 2 to 4 percent.

Elevation: 5,550 to 5,650 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 48 to 51 degrees F.

Frost-free period: 110 to 130 days.

Native plants: Basin wildrye, basin big sagebrush, and black greasewood.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocalcids

Typical pedon: Kunzler gravelly sandy loam, in an area of map unit White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 15 percent pebbles.

A1—0 to 4 inches; light brownish gray (2.5Y 6/2) gravelly sandy loam, grayish brown (2.5Y 5/2) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine vesicular pores; 15 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

A2—4 to 11 inches; light gray (2.5Y 7/2) loam, light olive brown (2.5Y 5/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, and medium, and few coarse roots; many very fine interstitial pores; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk1—11 to 26 inches; light gray (2.5Y 7/2) sandy loam, light yellowish brown (2.5Y 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, and fine roots; many very fine interstitial pores; many common fine rounded and irregular soft masses of secondary calcium carbonate; 25 percent very hard, firm and brittle durinodes; 10 percent pebbles; common distinct secondary calcium carbonate concretions on bottom of pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bqk2—26 to 41 inches; light gray (2.5Y 7/2) sandy loam, light brownish gray (2.5Y 6/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few, very fine, fine, medium, and coarse roots; many very fine interstitial pores; common distinct secondary calcium carbonate and silica concretions on bottom of pebbles; few fine rounded secondary calcium carbonate masses throughout; 5 percent hard and brittle durinodes; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bqk3—41 to 60 inches; light gray (2.5Y 7/2) loam, light brownish gray (2.5Y 6/2) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine, and fine roots; many very fine interstitial pores; few distinct relict redoximorphic concentrations; common round and irregular masses of secondary calcium carbonate; 5 percent hard and brittle durinodes; violently effervescent; strongly alkaline (pH 8.6).

Type location: White Pine County, Nevada; approximately 2.8 miles north northwest of the intersection of US Highway 93 and Alternate 93; about 1,300 feet west and 100 feet south of the northeast corner of section 27, T.26 N. R.65 E.; USGS Lages Station 7.5 minute topographic quadrangle; 40 degrees, 06 minutes, 22 seconds north latitude and 114 degrees, 37 minutes, 20 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, but is moist in some part 25 to 35 percent of the time when the soil temperature is above 41 degrees F. It is dry in all parts for 45 to 60 consecutive days following the summer solstice. Aridic soil moisture regime bordering on xeric.

Soil temperature: 50 to 53 degrees F.

Depth to the calcic horizon: 10 to 35 inches.

Control section:

Clay content—10 to 18 percent.

A horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Structure—Platy or subangular blocky.

Consistence—Soft to slightly hard.

Effervescence—Slightly effervescent to strongly effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Bqk horizons:

Structure—Subangular blocky, platy or massive.

Consistence—Soft to slightly hard, very friable to firm, nonsticky to moderately sticky and nonplastic to moderately plastic.

Rock fragments—In some pedons more than 15 percent coarse fragments occur below 40 inches.

Durinodes—20 percent or more durinodes in some part of the horizon above 40 inches. About half of the durinodes are strongly cemented.

Exchangeable sodium percentage (ESP)—Increases with depth and is greater than 40 percent in some part of the horizon.

Effervescence—Moderately effervescent through violently effervescent.

Reaction—Moderately alkaline to very strongly alkaline.

Kyler series

Depth class: Shallow and very shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains and hills.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 8 to 75 percent.

Elevation: 4,450 to 8,800 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 50 to 54 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, Stansbury's cliffrose, and black sagebrush. Other areas may support scattered Utah Juniper.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

Typical pedon: Kyler very gravelly very fine sandy loam in an area of map unit 3673, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 35 percent pebbles, 20 percent cobbles, and 1 percent stones.

A—0 to 3 inch; pale brown (10YR 6/3) very gravelly very fine sandy loam, brown (10YR 4/3) moist; moderate medium platy structure; soft, very friable, slightly sticky and nonplastic; common very fine and few fine roots; common very fine, fine, and few medium interstitial pores; 35 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

C—3 to 11 inches; light yellowish brown (10YR 6/4) very gravelly very fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common very fine, fine and few medium interstitial pores; few (2 percent) faint secondary calcium carbonate concretions on bottom of rock fragments; 40 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

R—11 inches; hard limestone.

Type location: Lincoln County, Nevada; on a mountain slope near the dirt road to Ely Springs; USGS Ely Springs 7.5 minute topographic quadrangle; 37 degrees, 54 minutes, 18 seconds north latitude and 114 degrees, 41 minutes, 11 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 53 to 59 degrees F.

Depth to bedrock: 6 to 14 inches.

Reaction: Moderately alkaline or strongly alkaline.

Effervescence: Strongly effervescent to violently effervescent.

Carbonates: 30 to 40 percent calcium carbonate equivalent in the fine earth fraction, and 40 to 60 percent total in the less than 20mm fraction.

Particle size control section:

Clay content—7 to 18 percent.

Rock fragments—35 to 60 percent.

A horizon:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 or 3, dry or moist.

C horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 moist.

Texture (less than 2mm fraction)—Loam, including strata of fine sandy loam, very fine sandy loam or silt loam.

Structure—Massive or subangular blocky.

Consistence—Soft or slightly hard dry, very friable or friable moist, slightly sticky or moderately sticky, slightly plastic or moderately plastic.

Rock fragments—Average 35 to 60 percent. Subhorizons have up to 70 percent rock fragments in some pedons.

Other features—Some pedons have a thin Bk horizon. Some pedons have faint secondary calcium carbonate concretions on rock fragments.

Leo series

Depth class: Very deep.

Drainage class: Excessively drained.

Permeability: Rapid

Runoff: Very low.

Landform: Inset fans and fan remnants.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 0 to 4 percent.

Elevation: 4,600 to 5,700 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 48 to 53 degrees F.

Frost-free period: 120 to 150 days.

Native plants: Indian ricegrass, desert needlegrass, spiny hopsage, and Nevada ephedra.

Taxonomic class: Sandy-skeletal, mixed, mesic Typic Torriorthents

Typical pedon: Leo gravelly sandy loam, in an area of map unit 3700, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 35 percent pebbles.

A—0 to 4 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, nonsticky and slightly plastic; common fine, medium, and coarse roots; common very fine interstitial pores; 25 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

C1—4 to 14 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and medium, and few coarse roots; many very fine interstitial pores; 35 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C2—14 to 60 inches; pale brown (10YR 6/3) stratified very gravelly sandy loam to very gravelly loamy sand, dark yellowish brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common fine and medium, and few coarse roots; many very fine interstitial pores; 50 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; 10 feet off of the jeep trail in Dry Lake Valley near the Pahroc Mountain Range; 1,080 feet east and 750 feet south of the northwest corner of section 6, T.1 N., R.64 E.; USGS Deadman Spring NE 7.5 minute topographic quadrangle; 37 degrees, 53 minutes, 41 seconds north latitude and 114 degrees, 51 minutes, 28 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 days cumulative between July and September due to convection storms. Typic aridic soil moisture regime.

Soil temperature: 53 to 59 degrees F.

Reaction: Moderately alkaline or strongly alkaline.

Particle size control section:

Clay content—0 to 5 percent

Rock fragments—35 to 55 percent, mainly pebbles. Individual strata range from 10 to 100 percent rock fragments in some pedons.

A horizon:

Value—5 through 7 dry; 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Effervescence—Noneffervescent to strongly effervescent.

C horizons:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Stratified; includes strata of fine sandy loam or sandy loam as well as sand, loamy sand and gravel in some pedons.

Consistence—Loose or soft and very friable.

Structure—Massive or single grain.

Effervescence—Slightly effervescent to strongly effervescent.

Other features—Strong influence from pyroclastic materials. Some pedons have randomly oriented silica and secondary calcium carbonate concretions on rock fragments.

Lien series

Depth class: Very shallow and shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Low to high.

Landform: Fan remnants.

Parent material: Alluvium from welded tuff with a component of volcanic ash.

Slope range: 2 to 15 percent.

Elevation: 5,400 to 7,100 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 52 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, Thurber's needlegrass and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplodurids

Typical pedon: Lien very gravelly fine sandy loam, in an area of Meadow Valley Area, Nevada and Utah, rangeland.
(Colors are for dry soil unless otherwise noted.)

- A—0 to 3 inches; light brownish gray (10YR 6/2) very gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few roots; many fine, and few medium vesicular pores; 40 percent pebbles, mostly pan fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- Bk—3 to 8 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; many fine, medium and coarse horizontal roots; many very fine and fine and few medium interstitial pores; 60 percent pebbles of 1/2 to 3/4 inch thick weathered pan fragments; 10 percent common distinct secondary lime concentrations on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- 2Bqkm—8 to 24 inches; very pale brown (10YR 8/2) indurated duripan, light gray (10YR 7/2) moist; strong very thick and thick platy structure; very rigid, very fine roots only as mats along fracture planes and between plates; few very fine interstitial pores; laminar 1/32 inch thick brown secondary silica coatings on upper plate surface and filling old pores and root channels; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
- 3Bqkm—24 to 60 inches; light yellowish brown (10YR 6/4) weakly cemented loamy fine sand, dark yellowish brown (10YR 4/4) moist; massive; very hard, very firm, brittle; continuous root mat of very fine roots on horizon surface, and few very fine roots in matrix; many very fine tubular pores that are partially filled by very pale brown (10YR 7/3) secondary silica coatings; violently effervescent, with few fine and medium distinct very pale brown (10YR 8/2) lime seams; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; about 30 miles northeast of Pioche; at the approximate northeast corner of section 19, T.6 N., R.68 E; USGS Schoolmarm Basin 7.5 minute topographic quadrangle; 38 degrees, 22 minutes, 25 seconds north latitude and 114 degrees, 22 minutes, 44 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry summer and fall except moist in some part for 10 to 20 days cumulative during summer convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Depth to indurated duripan: 6 to 14 inches.

Reaction: Moderately alkaline to very strongly alkaline.

Calcium carbonate equivalent: 5 to 20 percent in the material less than 2mm fraction.

Control section:

Clay content—8 to 24 percent.

Rock fragments—50 to 70 percent mainly pebbles, consisting of duripan fragments and welded tuff.

A horizon:

Value—3 or 4 moist.

Chroma—2 through 4, dry or moist.

Volcanic glass—5 to 25 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features—The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Bk horizon:

Value—3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam, sandy loam, or loam.

Rock fragments—50 to 70 percent mainly pebbles.

Structure—Weak, medium or fine subangular blocky or massive.

Consistence—Nonsticky or slightly sticky.

Volcanic glass—5 to 25 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features—Acid oxalate extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30 (estimated).

2Bqkm horizon:

Value—7 or 8 dry, 6 or 7 moist.

Chroma—1 through 3, dry or moist.

Structure—Platy or it is massive.

Other features—Laminar opal sheets and coatings comprise 20 to 40 percent with higher chroma than the lime cemented portions.

3Bqk horizon:

Chroma—3 or 4, dry or moist.

Consistence—Hard to very hard.

Linco series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium or high.

Landform: Fan remnants.

Parent material: Alluvium over lacustrine deposits derived from limestone and welded tuff.

Slope range: 2 to 8 percent.

Elevation: 5,600 to 5,850 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 46 to 51 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Duric Torriorthents

Typical pedon: Linco gravelly sandy loam in an area of Meadow Valley Area, Nevada and Utah, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with about 25 percent pebbles.

A—0 to 3 inches; light brownish gray (10YR 6/2) gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 20 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—3 to 8 inches; pinkish gray (7.5YR 7/2) gravelly loam, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; many very fine and fine interstitial pores; common (10 percent) distinct secondary calcium carbonate on bottom of pebbles; 20 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5); abrupt irregular boundary.

2Bqk—8 to 25 inches; pinkish gray (7.5YR 7/2) gravelly fine sandy loam, brown (7.5YR 5/4) moist; massive; hard, firm, slightly brittle; few medium roots; many very fine and fine interstitial pores; common (15 percent) distinct secondary calcium carbonate around pebbles; weakly silica cemented matrix; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

2C—25 to 60 inches; pinkish gray (7.5YR 7/2) gravelly fine sandy loam, brown (7.5YR 5/4) moist, with few thin (.25 to .5 inch) strata of pebble-free sandy loam and loamy sand; massive; soft, very friable, nonsticky and nonplastic; few medium roots; many fine interstitial pores; 30 percent pebbles; violently effervescent; strongly alkaline (pH 9.0).

Type location: Lincoln County, Nevada; approximately 1,300 feet north and 2,640 feet east of the southwest corner of section 32, T.2 S., R.69 E.; 37 degrees, 43 minutes, and 36 seconds north latitude, 114 degrees, 17 minutes, and 23 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in late winter and spring, dry summer and fall. Aridic soil regime that borders on xeric.

Soil temperature: 49 to 53 degrees F.

Depth to silica cementation: 5 to 10 inches.

Other features: Stratified loam, sandy loam, fine sandy loam, loamy sand, loamy fine sand, or clay loam, with 0 to 35 percent rock fragments in the individual strata.

Particle size control section:

Clay content—7 to 18 percent.

Rock fragments—20 to 35 percent.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 or 3, dry or moist.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Reaction—Moderately alkaline or strongly alkaline.

Bk, 2Bqk and 2C horizons:

Hue—10YR or 7.5YR.

Value—4 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent—5 to 15 percent in the material less than 2 mm.

Reaction—Strongly alkaline or very strongly alkaline.

Linoyer series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low.

Landform: Fan remnants, stream terraces, and basin floors.

Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone.

Slope range: 0 to 4 percent.

Elevation: 5,700 to 6,400 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 52 degrees F.

Frost-free period: 100 to 140 days.

Native plants: Indian ricegrass and winterfat. Other areas may support Wyoming big sagebrush.

Taxonomic class: Coarse-silty, mixed, superactive, calcareous, mesic Xeric Torriothernts

Typical pedon: Linoyer very fine sandy loam, in an area of map unit 1100, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) very fine sandy loam, brown (10YR 4/3) moist; weak medium platy structure; soft, friable, slightly sticky and slightly plastic; common very fine, and few medium roots; few very fine vesicular pores; slightly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

A2—3 to 11 inches; pale brown (10YR 6/3) very fine sandy loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, and few medium roots; few fine and very fine vesicular pores; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1—11 to 23 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and slightly plastic; few fine, medium, and coarse roots; few very fine and fine tubular pores; strongly effervescent; moderately alkaline (pH 8.4); gradual smooth boundary.

C2—23 to 38 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; few fine roots; few very fine and fine tubular pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C3—38 to 60 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; few fine tubular pores; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; about 1 mile northwest of Hamlin Well, in Hamlin Valley Wash; 940 feet east and 1,150 feet north of the southwest corner of section 35, T.7 N., R.70 E.; USGS Hamlin Well 7.5 minute topographic quadrangle; 38 degrees, 25 minutes, 12 seconds north latitude and 114 degrees, 5 minutes, 55 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soils are continually moist in the moisture control section for 60 to 70 days out of the 120 days after the winter solstice and are dry for 70 or 80 consecutive days after June 21. The soil moisture regime is aridic bordering xeric.

Soil temperature: At a depth of 20 inches, 47 to 54 degrees F.

Summer soil temperature: 66 to 70 degrees F.

A horizons:

Hue—10YR or 7.5YR.

Value—4 to 7 dry, 4 to 6 moist.

Chroma—2 to 4, dry or moist.

Structure—Platy, subangular blocky, or prismatic.

Consistence—Soft to slightly hard dry and friable to very friable moist.

Effervescences—Slightly effervescent to strongly effervescent.

Reaction—Moderately alkaline to strongly alkaline.

C horizons:

Hue—10YR, 7.5YR or 5YR.

Value—5 to 7 dry, 4 to 6 moist.

Chroma—2 to 6, dry or moist.

Texture—Very fine sandy loam or silt loam.

Clay content—10 to 18 percent clay and contains 5 to 15 percent sand coarser than very fine sand.

Structure—Massive or platy.

Consistence—Soft or slightly hard dry, very friable to friable moist, and slightly sticky to moderately sticky and slightly plastic to moderately plastic wet.

Reaction—Moderately alkaline to strongly alkaline.

Calcium carbonate equivalent—10 to 40 percent.

Littleailie series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium or high.

Landform: Fan remnants and ballenas.

Parent material: Alluvium derived from welded tuff with a component of volcanic ash and a minor component of limestone.

Slope range: 0 to 30 percent.

Elevation: 4,500 to 7,250 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Argidurids

Typical pedon: Littleailie gravelly sandy loam in an area of map unit 2305, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 35 percent pebbles and 10 percent cobbles. Lithology of the fragments is welded tuff.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; strong very thick platy structure parting to moderate thin platy; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine, and few medium, coarse and very coarse vesicular pores; 15 percent pebbles; strongly alkaline (pH 8.7); clear smooth boundary.

Btk—3 to 8 inches; pale brown (10YR 6/3) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine and medium, and few coarse roots; common very fine and fine, and few medium interstitial and tubular pores; common faint clay bridging sand grains; secondary calcium carbonate disseminated throughout and around rock fragments; 25 percent pebbles and 5 percent cobbles; strongly alkaline (pH 8.9); clear wavy boundary.

Bqk—8 to 19 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; strong thick platy structure parting to strong medium subangular blocky; hard, firm, slightly sticky and nonplastic; few very fine and fine, and many medium roots; common very fine and fine, and few medium interstitial and tubular pores; secondary calcium carbonate disseminated throughout the matrix and common (5 percent) thin 1 mm thick) coats around rock fragments, and as common (2 percent) fine threads; 30 percent very strongly cemented duripan fragments and 25 percent strongly cemented durinodes; strongly effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

Bqkm1—19 to 28 inches; white (10YR 8/1) cemented material, light gray (10YR 7/2) moist; strong very thick platy structure; very rigid; few very fine and fine interstitial pores; indurated duripan cemented by secondary silica and calcium carbonate; violently effervescent; very strongly alkaline (pH 9.3); abrupt smooth boundary.

Bqkm2—28 to 41 inches; very pale brown (10YR 8/2) cemented material, light gray (10YR 7/2) moist; massive; slightly rigid; few very fine and fine interstitial pores; strongly cemented by secondary silica and calcium carbonate; violently effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

2Bqk—41 to 62 inches; pale brown (10YR 6/3) extremely gravelly loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; common very fine and fine, and few medium interstitial pores; 50 percent pebbles and 10 percent cobbles; common (5 percent) secondary silica and secondary calcium carbonate coats around rock fragments; many (20 percent) discontinuous moderately to strongly cemented layers of secondary silica and secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 9.5).

Type location: Lincoln County, Nevada; approximately 50 feet north of road, northeast part of Big Sand Spring Valley; about 1,200 feet east and 2,130 feet south of the northwest corner of section 15, T.1 N., R.56 E.; USGS McCutchen Spring 7.5 minute topographic quadrangle; 37 degrees, 56 minutes, 59 seconds north latitude and 115 degrees, 40 minutes, 18 seconds west longitude, NAD27.

Range in characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 days cumulative between July and September due to summer convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Depth to argillic horizon: 2 to 5 inches.

Depth to the base of the argillic horizon: 5 to 15 inches.

Depth to the duripan: 14 to 20 inches.

Volcanic glass: 5 to 25 percent volcanic glass in the 0.02 to 2 millimeter fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—8 to 18 percent.

Rock fragments—Averages 35 to 50 percent, mainly pebbles.

A horizon:

Value—5 through 7 dry, 3 or 4 moist.
 Chroma—2 through 4, dry or moist.

Btk horizon:

Value—6 or 7 dry, 3 through 5 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Sandy loam, coarse sandy loam, or loam.
 Clay content—15 to 25 percent.
 Rock fragments—25 to 45 percent.
 Reaction—Moderately alkaline to very strongly alkaline.

Bqk horizon:

Value—6 or 7 dry, 4 or 5 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Sandy loam, coarse sandy loam or loamy coarse sand.
 Clay content—4 to 18 percent.
 Rock fragments—35 to 55 percent.
 Secondary silica—20 to 40 percent hard, brittle durinodes and weathered duripan fragments.
 Reaction—Moderately alkaline to very strongly alkaline.

Bqkm horizons:

Value—7 or 8 dry, 7 or 8 moist.
 Chroma—1 through 3, dry or moist.
 Cementation class—Indurated in the Bqkm1 horizon and very strongly cemented to moderately cemented in the Bqkm2 horizon.
 Reaction—Strongly alkaline or very strongly alkaline.

Bqk horizon:

Value—6 or 7 dry, 4 or 5 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Loamy sand, loamy coarse sand or sandy loam.
 Clay content—3 to 10 percent.
 Rock fragments—50 to 80 percent.
 Reaction—Strongly alkaline or very strongly alkaline.

Littlespring series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: High.

Landform: Basin-floor remnants.

Parent material: Alluvium over beach sand derived from limestone and welded tuff.

Slope range: 2 to 4 percent.

Elevation: 5,550 to 5,650

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 50 to 52 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Shadscale and black greasewood.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Haplocalcids

Typical pedon: Littlespring coarse sandy loam in an area of White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.)

- A—0 to 5 inches; light brownish gray (10YR 6/2) coarse sandy loam, brown (10YR 4/3) moist; moderate thick platy structure parting to moderate medium subangular blocky; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; common very fine and fine, and few medium vesicular pores; few (0.5 percent) distinct prominent masses of secondary calcium carbonate on bottom of rock fragments; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.
- Bw—5 to 10 inches; pale brown (10YR 6/3) sandy loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure parting to moderate medium granular; soft, very friable, slightly sticky and nonplastic; common very fine, fine, and medium roots; common very fine and fine interstitial and tubular pores; in the lower part there are few (1 percent) distinct prominent masses of secondary calcium carbonate on bottom of rock fragments; 10 percent pebbles; strongly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.
- 2Bk—10 to 27 inches; light gray (10YR 7/2) clay loam, yellowish brown (10YR 5/4) moist; strong coarse subangular blocky structure parting to moderate fine subangular blocky; very hard, extremely firm, slightly sticky and moderately plastic; few very fine and fine roots; few very fine and fine tubular pores; secondary calcium carbonates disseminated throughout the matrix and many (20 percent) distinct prominent masses of secondary calcium carbonate around rock fragments and few (2 percent) large prominent secondary calcium carbonate masses, white (10YR 8/1), light gray (10YR 7/2) moist on faces of peds; 10 percent pebbles; violently effervescent; slightly alkaline (pH 7.8); clear smooth boundary.
- 3Cky1—27 to 34 inches; pale brown (10YR 6/3) gravelly sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine and few fine interstitial pores; few (0.5 percent) distinct prominent masses of secondary calcium carbonate around rock fragments; few (1 percent) distinct prominent gypsum threads; common continuous one inch thick lenses of redoximorphic concentrations, yellowish red (5YR 4/6), reddish brown (5YR 4/4) moist; 20 percent pebbles; slightly effervescent; slightly alkaline (pH 7.8); abrupt smooth boundary.
- 3Cky2—34 to 59 inches; light brownish gray (10YR 6/2) stratified very gravelly loamy sand and sandy clay loam, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic (loamy sand part); weak coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic (sandy clay loam part); many very fine and common fine interstitial pores; few (1 percent) thin prominent masses of secondary calcium carbonate around rock fragments; few (1 percent) soft thin gypsum threads; 20 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
- 3Cky3—59 to 65 inches; pale brown (10YR 6/3) stratified sandy clay loam and sandy loam, brown (10YR 4/3) moist; strong thick platy structure parting to moderate medium subangular blocky and strong fine subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; few very fine and fine irregular pores; few (1 percent) coarse prominent masses of secondary calcium carbonate; few (1 percent) fine prominent gypsum threads; slightly effervescent; moderately alkaline (pH 8.0).
- 3C—65 to 75 inches, pale brown (10YR 6/3) sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine interstitial pores; 5 percent pebbles; moderately alkaline (pH 8.2).

Type location: White Pine County, Nevada; 2 miles northeast of Bigspring Ranch, 0.6 mile north of the Hamlin Valley Road and 20 feet north of a jeep trail; about 1,000 feet south and 2,500 feet west of the northeast corner of section 26, T.10 N., R.70 E.; USGS Tweedy Wash 7.5 minute topographic quadrangle; 38 degrees, 42 minutes, 48 seconds north latitude and 114 degrees, 05 minutes, 36 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative due to summer convection storms.

Typic aridic soil moisture regime.

Mean annual soil temperature: 52 to 59 degrees F.

Thickness of the calcic horizon: 10 to 17 inches.

Reaction: Slightly alkaline or moderately alkaline.

Particle size control section:

Clay content—Averages 27 to 35 percent in the upper part and 2 to 5 percent in the lower part.

Rock fragments—Averages 5 to 15 percent in the upper part and 25 to 35 percent in the lower part, mainly pebbles.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent—5 to 10 percent, of the less than 2 mm fraction.

Bw horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Textures—Loam, sandy loam or sandy clay loam.

Clay content—10 to 24 percent.

Rock fragments—5 to 15 percent, mainly pebbles.

Calcium carbonate equivalent—5 to 10 percent, of the less than 2 mm fraction.

2Bk horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Clay content—27 to 35 percent.

Rock fragments—5 to 15 percent, mainly pebbles.

Calcium carbonate equivalent—15 to 25 percent, of the less than 2 mm fraction.

3Cky horizon:

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 6, dry or moist.

Texture—Stratified, averages gravelly loamy sand when mixed, includes sand through sandy clay loam.

Clay content—Averages 2 to 5 percent, individual strata range to 30 percent.

Rock fragments—Averages 15 to 35 percent, individual strata range from 0 to 50 percent.

Calcium carbonate equivalent—0 to 10 percent, of the less than 2 mm fraction.

Lodar series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone.

Slope range: 8 to 75 percent.

Elevation: 5,850 to 8,800 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 90 to 120 days.

Native plants: Singleleaf pinyon and Utah juniper woodland with an understory of bluebunch wheatgrass, Indian ricegrass, Sandberg's bluegrass, bottlebrush squirreltail, and black sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Calcixerolls

Typical pedon: Lodar very gravelly loam, in an area of map unit 1096, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 50 percent pebbles, 20 percent cobbles, and 1 percent stones.

- A1—0 to 1 inches; brown (7.5YR 5/3) very gravelly loam, dark brown (7.5YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 50 percent pebbles; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- A2—1 to 8 inches; brown (7.5YR 5/3) very gravelly loam, dark brown (7.5YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and fine, and few medium and coarse roots; common very fine and fine tubular pores; 45 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Bk—8 to 16 inches; light brown (7.5YR 6/3) very gravelly loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common very fine and fine, and few medium and coarse roots; common very fine and fine tubular pores; 40 percent pebbles; violently effervescent; secondary calcium carbonates are disseminated and are many (20 percent) distinct irregular masses coating rock fragments and distinct pendants on the bottom of rock fragments; moderately alkaline (pH 8.3); very abrupt smooth boundary.
- R—16 inches; hard limestone.

Type location: Lincoln County, Nevada; about 2 miles north of Milk Ranch Well and 1.5 miles east of U.S. Highway 93; 330 feet west and 1,300 feet north of the southeast corner section 21, T.8 N., R.65 E.; USGS Milk Ranch Spring 7.5 minute topographic quadrangle; 38 degrees, 32 minutes, 05 seconds north latitude and 114 degrees, 40 minutes, 34 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soils are dry for 80 to 100 consecutive days in the moisture control section within the 3 months after June 21. The soil moisture regime is xeric bordering on aridic.

Soil temperature: 47 to 53 degrees F.

Thickness of mollic epipedon: 7 to 10 inches.

Depth to the calcic horizon: 7 to 10 inches.

Depth to bedrock: 10 to 20 inches.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragment content—20 to 80 percent by volume but averages more than 35 percent between 10 inches and bedrock.

Calcium carbonate equivalent—40 to 80 percent, including those in coarse fragments of less than 20 millimeter size, between 10 inches and bedrock.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent—1 to 45 percent of the less than 20 mm fraction. When the CCE exceeds 40 percent the color value moist is 5 or less.

Effervescence—Slightly effervescent or strongly effervescent.

Bk horizon:

Hue—10YR or 7.5YR.

Value—5 to 7 dry, 4 to 6 moist.

Chroma—2 or 4, dry or moist.

Textures—Very gravelly loam, very cobbly loam, very gravelly sandy loam, very cobbly sandy loam or extremely gravelly loam.

Consistence—Soft or slightly hard, dry, very friable or friable, moist, nonsticky or slightly sticky and nonplastic to moderately plastic, wet.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—40 to 80 percent of the less than 20 mm fraction, and 30 to 40 percent in the less than 2 mm fraction.

Other—Secondary calcium carbonate occurs as concentrations or pendants on rock fragments and as irregular masses.

Logring series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone.

Slope range: 15 to 75 percent.

Elevation: 5,250 to 8,800 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 80 to 130 days.

Native plants: Singleleaf pinyon and Utah juniper woodland with and understory of muttongrass, Sandberg's bluegrass, eriogonum, black sagebrush, and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

Typical pedon: Logring very cobbly fine sandy loam, in an area of map unit 3670, woodland. The soil surface is covered with approximately 30 percent pebbles, 30 percent cobbles and 2 percent stones.

A—0 to 3 inches; brown (10YR 5/3) very cobbly fine sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and common fine interstitial pores; 30 percent pebbles, 15 percent cobbles and 2 percent stones; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—3 to 10 inches; light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 3/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and few medium roots; common very fine and few fine interstitial and tubular pores; 35 percent pebbles and 25 percent cobbles; common (4 percent) secondary calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

R—10 inches; fractured limestone; secondary calcium carbonate filling fractures.

Type location: Lincoln county, Nevada; about 2 miles east of the rest area on Highway 318 just north of Sunnyside; USGS Cave Valley Well 7.5 minute topographic quadrangle; 38 degrees, 25 minutes, 55 seconds north latitude and 114 degrees, 59 minutes, 20 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry summer and fall except for 10 to 20 days cumulative between July and October due to convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 50 degrees F.

Reaction: Slightly alkaline to strongly alkaline.

Effervescence: Strongly effervescent to violently effervescent throughout.

Carbonates: 40 to 60 percent calcium carbonate equivalent in the less than 20 mm fraction and 15 to 40 percent in the less than 2 mm fraction, finely divided secondary calcium carbonate in upper 18 centimeters. Accumulation of secondary carbonates is less than 5 percent in horizons more than 4 inches thick.

Organic carbon: 1.0 to 1.5 percent in upper 7 inches

Depth to bedrock: 7 to 14 inches.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—35 to 60 percent, mainly cobbles and pebbles.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 through 4, dry or moist.

Bk horizon:

Chroma—3 or 4, dry or moist.

Texture—Very cobbly loam, very cobbly fine sandy loam, extremely cobbly loam, or very gravelly sandy loam.

Structure—Weak fine or medium subangular blocky.

Lojet series

Depth class: Moderately deep to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low and medium.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff with a component of volcanic ash.

Slope range: 0 to 8 percent.

Elevation: 4,500 to 7,000 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Xeric Argidurids

Typical pedon: Lojet coarse sandy loam in an area of map unit 3409, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 20 percent gravel. Lithology of the rock fragments is mainly welded tuff.

A—0 to 4 inches; pale brown (10YR 6/3) coarse sandy loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure parting to moderate very thin platy; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial and tubular pores; 10 percent pebbles; moderately alkaline (pH 7.9); clear smooth boundary.

Bt1—4 to 8 inches; yellowish brown (10YR 5/4) sandy clay loam, dark yellowish brown (10YR 3/4) moist; weak medium prismatic structure parting to moderate fine and medium subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, and few medium roots; common very fine and fine tubular pores; common faint clay films bridging sand grains; 5 percent pebbles; moderately alkaline (pH 8.3); clear smooth boundary.

Bt2—8 to 11 inches; yellowish brown (10YR 5/4) clay loam, dark yellowish brown (10YR 3/4) moist; weak medium prismatic structure parting to moderate fine and medium subangular blocky; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine tubular pores; common faint clay films bridging sand grains; 10 percent pebbles; moderately alkaline (pH 8.2); abrupt smooth boundary.

Btk1—11 to 21 inches; light yellowish brown (10YR 6/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse prismatic structure parting to moderate fine and medium subangular blocky; hard, firm, very sticky and moderately plastic; few very fine, fine and medium roots; few very fine and fine tubular pores; few faint clay films bridging sand grains; common (10 percent) fine secondary calcium carbonate threads and common (15 percent) secondary calcium carbonate masses on faces of peds; calcium carbonate equivalent is 8 percent; 30 percent pebbles; very slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Btk2—21 to 28 inches; pale brown (10YR 6/3) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium and coarse prismatic structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; few very fine and fine tubular pores; few faint clay films bridging sand grains; common (10 percent) fine secondary calcium carbonate threads and many (25 percent) secondary calcium carbonate masses (1 to

2 mm) on faces of peds; calcium carbonate equivalent is 14 percent; 40 percent pebbles; slightly effervescent; very strongly alkaline (pH 9.1); clear smooth boundary.

Btk3—28 to 35 inches; light gray (10YR 7/2) very gravelly sandy clay loam, pale brown (10YR 6/3) moist; strong fine and medium subangular blocky structure; slightly hard; friable; moderately sticky and slightly plastic; few very fine, fine, and medium roots; few very fine and fine tubular pores; few faint clay films bridging sand grains; many (20 percent) fine secondary calcium carbonate threads; calcium carbonate equivalent is 32 percent; 40 percent pebbles; slightly effervescent; very strongly alkaline (pH 9.2); very abrupt smooth boundary.

Bqkm—35 to 41 inches; very pale brown (10YR 7/3) cemented material, yellowish brown (10YR 5/4) moist; moderate thick platy structure; very rigid; indurated by secondary silica and calcium carbonate with a 1 to 5 mm thick laminar cap over very strongly cemented material; violently effervescent; very strongly alkaline (pH 9.2); gradual smooth boundary.

Bqk—41 to 60 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; few very fine interstitial pores; common (15 percent) lenses of material moderately cemented by secondary silica and calcium carbonate in a noncemented matrix; 45 percent pebbles; violently effervescent; very strongly alkaline (pH 9.2).

Type location: Lincoln County, Nevada; approximately 3.7 miles southwest of Put Back Spring and 12 feet south of dirt road, Garden Valley; about 2,280 feet south and 35 feet east of the northwest corner of section 8, T.1 N., R.58 E.; USGS Murphy Gap NW 7.5 minute topographic quadrangle; 37 degrees, 57 minutes, 58 seconds north latitude and 115 degrees, 29 minutes, 32 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative from July through September due to summer convection storms. Aridic soil moisture regime bordering xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to argillic horizon: 3 to 5 inches.

Thickness of argillic horizon: 15 to 40 inches.

Depth to duripan: 20 to 40 inches.

Volcanic glass content: 10 to 25 percent volcanic glass in the 0.02 to 2 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—27 to 35 percent.

Rock fragments—5 to 35 percent.

A horizon:

Chroma—2 through 4, dry or moist.

Salinity—0 to 2 millimhos/cm.

SAR—2 to 6.

Reaction—Slightly alkaline to strongly alkaline.

Calcium carbonate equivalent—Less than 5 percent in the material less than 2 mm.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy clay loam or clay loam.

Clay content—27 to 35 percent.

Rock fragments—0 to 15 percent, mainly pebbles.

Calcium carbonate equivalent—Less than 5 percent in the material less than 2 mm.

Salinity—2 to 4 millimhos/cm.

SAR—2 to 6.

Reaction—Slightly alkaline to strongly alkaline.

Btk1 and Btk2 horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay loam or sandy clay loam.

Clay content—27 to 35 percent.

Rock fragments—15 to 40 percent, mainly pebbles.

Calcium carbonate equivalent—5 to 35 percent in the material less than 2 mm.

Secondary calcium carbonate—10 to 35 percent coarse irregular masses on ped faces and fine threads throughout the matrix.

Salinity—2 to 8 millimhos/cm.

SAR—2 to 6.

Reaction—Moderately alkaline to very strongly alkaline.

Btk3 horizon:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay loam or sandy clay loam.

Clay content—27 to 35 percent.

Rock fragments—15 to 40 percent, mainly pebbles.

Calcium carbonate equivalent—15 to 35 percent in the material less than 2 mm.

Secondary calcium carbonate—10 to 35 percent coarse irregular masses on ped faces and fine threads throughout the matrix.

Salinity—2 to 8 millimhos/cm.

SAR—2 to 6.

Reaction—Strongly alkaline or very strongly alkaline.

Bqkm horizon:

Cementation—Very strongly cemented or indurated laminar cap over layers of moderately to very strongly cemented material.

Bqk horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Textures—Loamy coarse sand or coarse sandy loam.

Clay content—4 to 14 percent.

Rock fragment content—25 to 50 percent.

Calcium carbonate equivalent—15 to 35 percent in the material less than 2 mm.

Secondary silica—10 to 30 percent cemented by secondary silica.

Salinity—2 to 8 millimhos/cm.

SAR—2 to 6.

Reaction—Moderately alkaline or strongly alkaline.

Lomoine series

Depth class: Shallow and very shallow.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very high.

Landform: Hills.

Parent material: Residuum and colluvium derived from welded rhyolitic tuff.

Slope range: 8 to 30 percent.

Elevation: 4,600 to 5,500 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 54 degrees F.

Frost-free period: 110 to 130 days.

Native plants: Desert needlegrass, Indian ricegrass, black sagebrush, and Stansbury's cliffrose.

Taxonomic class: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Xeric Torriorthents

Typical pedon: Lomoiné very gravelly sandy loam, in an area of map unit 1958, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles, 20 percent cobbles and 5 percent stones.

A—0 to 3 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; few fine and medium interstitial pores; 40 percent pebbles; very slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C—3 to 4 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; few very fine and common fine roots; common very fine and few fine interstitial pores; 35 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt irregular boundary.

R—4 inches; hard, fractured welded tuff; few fine and very fine roots in fractures.

Type location: Lincoln County, Nevada; approximately 15 miles north of Hiko, 2.5 miles south southwest of White River Narrows and 4.5 miles east of State Highway 318; about 1,900 feet south and 800 feet west of the northeast corner section 15, T.2 S., R.62 E.; USGS White River Narrows 7.5 minute topographic quadrangle; 37 degrees, 46 minutes, 42 seconds north latitude and 115 degrees, 00 minutes, 38 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convection storms; Aridic (torric) soil moisture regime that borders on xeric.

Mean annual soil temperature: 53 to 58 degrees F.

Ochric epipedon thickness: 1 to 9 inches.

Depth to bedrock: 4 to 14 inches to a lithic contact.

Effervescence: Very slightly effervescence to strongly effervescent.

Calcium carbonate equivalent: 1 to 5 percent.

Reaction: Slightly alkaline or moderately alkaline.

Particle size control section:

Clay content—8 to 15 percent.

Rock fragments—35 to 60 percent with a high percentage of fine pebbles (2 to 5 millimeters in diameter). Lithology of fragments are granitic rocks such as granite or volcanic rock such as welded rhyolitic tuff.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

C horizon:

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly coarse sandy loam or very gravelly sandy loam.

Rock fragments—35 to 60 percent, mainly 2 to 5 mm pebbles.

Structure—Massive or subangular blocky.

Other features—Some pedons have thin weakly developed carbonate coats on pebbles.

Malmesa series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Very high.

Landform: Hills.

Parent material: Residuum derived from basalt.

Slope range: 4 to 30 percent.

Elevation: 4,500 to 6,400 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 51 to 57 degrees F.

Frost-free period: 120 to 150 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Argidurids

Typical pedon: Malmesa very gravelly fine sandy loam in an area of map unit 1957, rangeland. (Colors are for dry soil unless otherwise noted.)

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; slightly hard, friable, slightly sticky and nonplastic; few fine roots; many fine vesicular pores; 40 percent pebbles and 5 percent cobbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bt—3 to 5 inches; pale brown (10YR 6/3) very gravelly sandy clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few fine roots; few very fine and fine tubular and interstitial pores; 30 percent pebbles and 5 percent cobbles; few faint clay films on faces of peds and bridging sand grains; slightly effervescent; moderately alkaline (pH 8.3); clear smooth boundary.

Btk—5 to 12 inches; pale brown (10YR 6/3) very gravelly sandy clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; few fine roots; few very fine and fine interstitial pores; 35 percent pebbles and 5 percent cobbles; few faint clay films on faces of peds; few (5 percent) calcium carbonate and silica pendants on bottom of rock fragments; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk—12 to 16 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; strong fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine roots; few very fine interstitial pores; 35 percent pebbles and 10 percent cobbles; 10 percent broken pan fragments and common (15 percent) secondary silica and calcium carbonate pediments on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqkm—16 to 17 inches; indurated laminar cap, thin (1 mm to 5 cm) plugs all fractures.

R—17 inches; fractured basalt.

Type location: Lincoln County, Nevada; about 1.5 miles west of State Highway 318 and 3 miles southwest of the White River Narrows Archeology District; 480 feet north and 1,490 feet east of the southwest corner section 36, T.1 S., R.61 E.; USGS White River Narrows 7.5 minute topographic quadrangle; 37 degrees, 48 minutes, 39 seconds north latitude and 115 degrees, 05 minutes, 37 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to indurated pan: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches.

Calcium carbonate equivalent: 0 to 20 percent in the material less than 2 mm.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragments—35 to 50 percent, dominantly cobbles and pebbles.

A horizon:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 or 3, dry or moist.

Carbonates—Noneffervescent to slightly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Bt horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Loam or clay loam, subhorizons of clay or sandy clay loam are in some pedons.

Structure—Fine or medium subangular blocky.

Consistence—Soft or slightly hard dry.

Effervescence—Noneffervescent to slightly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Btk horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Clay loam, subhorizons of loam, sandy clay loam or clay are in some pedons.

Consistence—Soft or slightly hard dry, slightly sticky or moderately sticky and slightly plastic or moderately plastic wet.

Effervescences—Strongly effervescent to violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Bqk horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Loam or sandy loam.

Clay content—10 to 18 percent.

Rock fragments—45 to 65 percent, mainly cobbles and pebbles.

Structure—Massive or subangular blocky.

Consistence—Nonsticky or slightly sticky wet.

Effervescence—Strongly effervescent or violently effervescent.

Other features—This horizon commonly has many pan fragments and thick coatings on rock fragments.

Reaction—Moderately alkaline or strongly alkaline.

Bqkm horizon:

Other features—Usually a thin 1 mm to 2 cm thick laminar cap coating bedrock.

McIvey series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Very slow.

Runoff: High or very high.

Landform: Hills and mountains.

Parent material: Alluvium and colluvium derived from quartzite and shale.

Slope range: 8 to 50 percent.

Elevation: 6,400 to 9,200 feet.

Mean annual precipitation: 12 to 18 inches.

Mean annual air temperature: 40 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, and mountain big sagebrush.

Taxonomic class: Clayey-skeletal, smectitic, frigid Typic Argixerolls

Typical pedon: Mclvey extremely gravelly sandy loam in an area of map unit 1700, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 50 percent pebbles and 20 percent cobbles.

A1—0 to 2 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial and tubular pores; 50 percent pebbles and 20 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2—2 to 12 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium and coarse roots; many very fine interstitial and tubular pores; 55 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1—12 to 16 inches; brown (7.5YR 4/4) very gravelly clay loam, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine, fine and coarse roots; common fine tubular pores; common distinct clay films on faces of peds and lining pores; 40 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt2—16 to 31 inches; brown (7.5YR 4/4) extremely gravelly clay, brown (7.5YR 4/4) moist; strong fine angular blocky structure; hard, firm, very sticky and very plastic; few medium roots; common fine tubular pores; common distinct clay films on faces of peds and lining pores; 50 percent pebbles, 10 percent cobbles and 5 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.

Bt3—31 to 60 inches; brown (7.5YR 4/4) very gravelly clay loam, brown (7.5YR 4/4) moist; strong fine angular blocky structure; hard, firm, moderately sticky and moderately plastic; few medium roots; common fine tubular pores; common distinct clay films on faces of peds and lining pores; 40 percent pebbles, 10 percent cobbles and 8 percent stones; slightly alkaline (pH 7.6).

Type location: Lincoln County, Nevada; about 850 feet south and 250 feet east of the northwest corner of section 10, T.9 N., R.65 E.; USGS Mount Grafton 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, 35 seconds north latitude and 114 degrees, 40 minutes, 26 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in the moisture control section in winter and spring, dry mid-July through October. Xeric soil moisture regime that borders on aridic.

Mean annual soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 12 to 20 inches, does not include the argillic horizon.

Depth to base of argillic horizon: More than 50 inches.

Particle size control section:

Clay content—35 to 50 percent.

Rock fragments—Averages 35 to 60 percent, mainly pebbles. Lithology of fragments are mainly volcanic rocks.

Other features—Some pedons have C horizons below a depth of 50 inches.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—2 to 5 percent.

Bt1 horizon:

Hue—7.5YR or 10YR.

Value—3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Very gravelly clay loam or gravelly clay loam.

Consistence—Hard or very hard dry, friable to very firm moist, moderately sticky or very sticky and moderately plastic or very plastic wet.

Structure—Moderate or strong, fine or medium subangular blocky.

Clay content—30 to 40 percent.

Rock fragments—15 to 40 percent pebbles, 0 to 10 percent cobbles and stones.

Reaction—Slightly acid to slightly alkaline.

Bt2 and Bt3:

Hue—7.5YR or 10YR.

Value—4 or 6 dry, 3 through 5 moist.

Chroma—3 through 6, dry or moist.

Texture—Very gravelly clay, very cobbly clay, extremely gravelly clay, or extremely cobbly clay with extremely cobbly clay loam, very gravelly clay loam, or extremely gravelly clay loam in some subhorizons below 30 inches.

Clay content—30 to 50 percent.

Rock fragments—35 to 60 percent pebbles, 5 to 25 percent cobbles, 0 to 15 percent stones.

Pararock fragments—0 to 15 percent paragravel.

Structure—Moderate or strong, fine through coarse subangular blocky, angular blocky, or prismatic.

Consistence—Hard or very hard dry, firm or very firm moist, and moderately sticky or very sticky and moderately plastic or very plastic wet.

Reaction—Slightly acid to slightly alkaline.

Medburn Series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate or moderately rapid.

Runoff: Low.

Landform: Inset fans.

Parent material: Alluvium derived from quartzite, sandstone, limestone and small amount of welded tuff.

Slope range: 0 to 4 percent.

Elevation: 6,050 to 6,400 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 48 to 50 degrees F.

Frost-free period: 100 to 140 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Xeric Torriorthents

Typical pedon: Medburn fine sandy loam in an area of White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 1 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 5/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many fine and medium roots; many very fine interstitial pores and few fine and medium tubular pores; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

A2—1 to 3 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; weak medium angular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and medium roots; many very fine interstitial pores and few fine and medium tubular pores; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

A3—3 to 8 inches; very pale brown (10YR 7/3) fine sandy loam, pale brown (10YR 6/3) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; many very fine interstitial pores and few fine and medium tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C1—8 to 20 inches; very pale brown (10YR 8/2) very gravelly fine sandy loam, pale brown (10YR 6/3) moist; massive; soft, very friable, nonsticky and nonplastic; many fine and common medium roots; many very fine interstitial pores and

few fine and medium tubular pores; 45 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C2—20 to 34 inches; very pale brown (10YR 8/3) fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few coarse and common medium roots; many very fine interstitial pores and few fine and medium tubular pores; violently effervescent; moderately alkaline (pH 8.4); gradual wavy boundary.

C3—34 to 60 inches; very pale brown (10YR 8/3) loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and medium roots; many very fine interstitial pores and few fine and medium tubular pores; violently effervescent; strongly alkaline (pH 8.8).

Type location: White Pine County, Nevada; approximately 10 feet east of a jeep trail and 0.3 mile south of the Highland Road and about 5 miles southwest of Minerva; about 100 feet north and 100 feet west of the southeast corner of section 32, T.11 N., R 67 E.; USGS Minerva 7.5 minute topographic quadrangle; 38 degrees, 45 minutes, 58 seconds north latitude and 114 degrees, 27 minutes, 59 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Dry in all parts of the moisture control section for 50 to 60 percent of the time that soil temperature is above 41 degrees F. at a depth of 20 inches. The soil moisture regime is aridic bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Calcium carbonate equivalent: 3 to 40 percent.

Reaction: Moderately alkaline or strongly alkaline.

Particle size control section:

Clay content—5 to 18 percent.

A horizons:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 3 through 6 moist.

Chroma—2 through 6, dry or moist.

Rock fragments—0 to 15 percent.

Effervescence—Strongly effervescent or violently effervescent.

C horizons:

Hue—7.5YR, 10YR or 2.5Y.

Value—5 through 8 dry, 4 through 7 moist.

Chroma—2 through 6, dry or moist.

Texture—Fine sandy loam, sandy loam, or loam.

Consistence—Soft or slightly hard dry, very friable or friable moist, nonsticky or slightly sticky and nonplastic to moderately plastic wet.

Rock fragments—0 to 25 percent, average less than 20 percent above 40 inches and ranges from 0 to 50 percent below 40 inches.

Electrical conductivity—0 to 16 mmhos/cm.

Exchangeable sodium—0 to 30.

Effervescence—Strongly effervescent or violently effervescent.

Mezzer series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid

Runoff: Low.

Landform: Inset fans.

Parent material: Alluvium derived from limestone and quartzite.

Slope range: 2 to 8 percent.

Elevation: 4,300 to 6,850 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 49 to 54 degrees F.

Frost-free period: 110 to 150 days.

Native plants: Indian ricegrass, galleta, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Xeric Haplocambids

Typical pedon: Mezzer very gravelly fine sandy loam in an area of map unit 1053, rangeland. (Colors are for dry soils unless otherwise noted.) The soil surface is covered with approximately 45 percent pebbles.

A—0 to 3 inches; pale brown (10YR 6/3) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine interstitial pores; 35 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—3 to 10 inches; very pale brown (10YR 7/3) gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium and few coarse roots; many very fine and fine interstitial and common very fine and fine tubular pores; 25 percent pebbles and 5 percent cobbles; common (2 percent) secondary calcium carbonate concretions on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1—10 to 46 inches; very pale brown (10YR 7/3) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic many very fine and fine, and common medium roots; many very fine and fine interstitial and few fine tubular pores; 60 percent pebbles and 5 percent cobbles; many (20 percent) secondary calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2C2—46 to 60 inches; very pale brown (10YR 7/3) very gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 35 percent pebbles and 5 percent cobbles; ; common (10 percent) secondary calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada, 2,000 feet north and 750 feet east of the southwest corner of section 10, T.1 N., R.57 E.; USGS Worthington Peak 7.5 minute topographic quadrangle; 37 degrees, 57 minutes, 42 seconds north latitude and 115 degrees, 33 minutes, 50 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall, and intermittently moist for 10 to 20 days cumulative July to September due to convection storms.

Soil temperature: 52 to 55 degrees F. Aridic soil moisture regime that borders on xeric.

Carbonates: 40 to 60 percent calcium carbonate equivalent in the less than 20 mm fraction, 20 to 30 percent calcium carbonate equivalent in less than 2 mm fraction.

Reaction: Moderately alkaline or strongly alkaline.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—50 to 80 percent, mainly pebbles.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Bw horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Rock fragments—15 to 35 percent, mainly pebbles.

C1 horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture (less than 2mm)—Fine sandy loam or sandy loam.

2C2 horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Clay content—3 to 12 percent.

Texture—Sandy loam or loamy coarse sand.

Rock fragments—35 to 70 percent, mainly pebbles.

Modem series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff and calcareous loess.

Slope range: 4 to 15 percent.

Elevation: 6,050 to 8,250 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Bluebunch wheatgrass, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Ashy-skeletal, glassy, mesic, shallow Vitritorrandic Durixerolls

Typical pedon: Modem very gravelly ashy sandy loam, in an area of map unit 4001, rangeland. (Colors are for dry soil unless otherwise noted.) Surface is partially covered with 40 percent pebbles. Lithology of the fragments is welded tuff.

A—0 to 4 inches; grayish brown (10YR 5/2) very gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine, common fine and few medium tubular pores; 40 percent pebbles; slightly alkaline (pH 7.5); clear smooth boundary.

Btkq1—4 to 7 inches; brown (10YR 5/3) very gravelly ashy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, common fine, and few medium roots; many very fine, common fine and few medium tubular pores; 50 percent pebbles; few faint clay films on faces of peds; common (10 percent) distinct secondary calcium carbonate and silica concretions on the bottom of rock fragments; violently effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Btkq2—7 to 10 inches; brown (10YR 5/3) very gravelly ashy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, and few medium roots; common very fine and fine tubular pores; 45 percent pebbles, of which 20 percent are indurated pan fragments; common faint clay films on faces of peds; common (10 percent) distinct secondary calcium carbonate and silica concretions on the bottom of rock fragments; violently effervescent; slightly alkaline (pH 7.8); very abrupt smooth boundary.

Bqkm1—10 to 25 inches; white (10YR 8/1) cemented material, light gray (10YR 7/1) moist; strong very thick platy structure; very rigid, indurated by secondary silica and calcium carbonate, with a 1 to 5 mm thick laminar cap; violently effervescent; gradual smooth boundary.

Bqkm2—25 to 46 inches; white (10YR 8/1) cemented material, light gray (10YR 7/1) moist; massive; very rigid, indurated by secondary silica and calcium carbonate; violently effervescent; clear smooth boundary.

Bkqy—46 to 60 inches; light gray (10YR 7/2) extremely cobbly ashy sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine interstitial pores; 30 percent pebbles, 40 percent cobbles and 10 percent stones; few distinct secondary calcium carbonate and silica concretions around rock fragments; few faint secondary gypsum concretions on the bottom of rock fragments; violently effervescent; strongly alkaline (pH 8.5).

Type location: Lincoln County, Nevada; located about 2 miles northwest of Dutch John Mountain and 50 feet south of the jeep trail; USGS Dutch John Mtn. 7.5 minute topographic quadrangle; 38 degrees, 28 minutes, 42 seconds north latitude, and 114 degrees, 42 minutes, 10 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry summer and fall; intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 14 inches.

Thickness of the argillic horizon: 6 to 18 inches.

Depth to the duripan: 10 to 20 inches.

Thickness of the duripan: 20 to 50 inches.

Mineralogy: 30 to 50 percent volcanic glass and glass aggregates in the 0.2 to 2 millimeter fraction.

Control section:

Clay content—18 to 30 percent.

Rock fragments—35 to 60 percent. Lithology of the fragments is welded tuff and indurated pan fragments.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Effervescence—Noneffervescent to slightly effervescent.

Calcium carbonate equivalent—0 to 5 percent, of the material less than 2 mm.

Reaction—Slightly alkaline or moderately alkaline.

Btkq horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam, ashy clay loam, ashy sandy clay loam.

Clay content—20 to 32 percent.

Rock fragments—35 to 60 percent, mainly pebbles.

Consistence—Slightly hard to hard, dry.

Effervescence—Slightly effervescent to violently effervescent.

Calcium carbonate equivalent—5 to 10 percent, of the material less than 2 mm.

Other features—Cementation by secondary silica and calcium carbonate as pendants or as weathered fragments of cemented material.

Reaction—Slightly alkaline or moderately alkaline.

Bqkm horizons:

Value—7 or 8 dry, 7 or 8 moist.

Chroma—1 through 3, dry or moist.

Bkqy horizon:

Value—6 through 8 dry, 4 through 7 moist.

Chroma—1 through 3, dry or moist.

Rock fragments—60 to 80 percent, mainly pebbles and cobbles.

Other features—Secondary calcium carbonate and silica present as concretions on rock fragments.

Calcium carbonate equivalent—10 to 20 percent, of the material less than 2 mm.

Gypsum content—3 to 5 percent.

Reaction—Moderately alkaline to strongly alkaline.

Monarch series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and shale.

Slope range: 15 to 75 percent.

Elevation: 6,300 to 9,400 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 42 to 45 degrees F.

Frost-free period: 70 to 90 days.

Native plants: Singleleaf pinyon and curleaf mountainmahogany woodland with an understory of bluebunch wheatgrass, muttongrass, mountain big sagebrush, Utah serviceberry, and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Lithic Calcixerolls

Typical pedon: Monarch extremely cobbly fine sandy loam, in an area of map unit 1501, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 45 percent pebbles, 25 percent cobbles and 1 percent stones.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) extremely cobbly fine sandy loam, black (10YR 2/1) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine, fine, and medium interstitial and vesicular pores; 45 percent pebbles; 25 percent cobbles, and 1 percent stones; slightly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2—2 to 8 inches; brown (10YR 4/3) very gravelly loam, very dark brown (10YR 2/2) moist; moderate fine granular and subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; common very fine, fine and medium tubular pores; 45 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—8 to 15 inches; brown (10YR 4/3) very gravelly loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky, and slightly plastic; many very fine through coarse roots; common secondary calcium carbonate concretions around rock fragments and many pendants on bottom of rock fragments; common very fine, fine and medium tubular and interstitial pores; 50 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.

R—15 inches; hard, fractured limestone.

Type location: Lincoln County, Nevada; Bristol Range; approximately 1.25 miles south of Jack Rabbit mines; about 1,700 feet west and 300 feet south of the northeast corner of section 32, T.3 N., R.66 E.; 38 degrees, 05 minutes, 00 seconds north latitude and 114 degrees, 35 minutes, 53 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry summer and fall, and intermittently moist for 10 to 20 cumulative days between July and September due to convection storms. Xeric soil moisture regime bordering on aridic.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 20 inches thick, includes all or part of the Bk horizon.

Depth to bedrock: 14 to 20 inches.

Depth to calcic horizon: 6 to 12 inches.

Calcium carbonate equivalent of the less than 2mm fraction: 20 to 35 percent.

Calcium carbonate equivalent of the less than 20 mm fraction: 40 to 80 percent.

Particle size control section:

Clay content—12 to 18 percent.

Rock fragments—35 to 60 percent, mainly limestone pebbles with up to 15 percent cobbles.

A horizons:

Hue—10YR or 7.5YR

Value—3 through 5 dry; 2 or 3 moist

Chroma—1 through 3, dry or moist.

Calcium carbonate equivalent of the less than 2mm fraction—5 to 15 percent.

Effervescence—Slightly effervescent to violently effervescent.

Bk horizon:

Hue—10YR, 7.5YR, or 5YR

Value—4 through 7 dry; 2 through 5 moist.

Chroma—2 through 5, dry or moist.

Texture—Loam, or fine sandy loam.

Structure—Massive, fine or medium, subangular blocky.

Consistence—Soft or slightly hard, dry, very friable or friable, moist, and nonplastic or slightly plastic.

Rock fragments—35 to 60 percent.

Secondary calcium carbonate—Common to many distinct or prominent concretions and pendants on rocks fragments.

Effervescence—Strongly effervescent to violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Nevoyer series

Depth class: Very shallow and shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Hills.

Parent material: Residuum and colluvium derived from welded tuff with a component of volcanic ash.

Slope range: 4 to 15 percent.

Elevation: 4,500 to 6,400 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 57 degrees F.

Frost-free period: 120 to 150 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Xeric Haplodurids

Typical pedon: Nevoyer gravelly fine sandy loam, in map unit 1957, rangeland (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inch; brownish (10YR 6/2) gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky, and nonplastic; few fine and few medium roots; common fine and medium interstitial pores; 25 percent pebbles and 5 percent cobbles; strongly alkaline (pH 8.8); abrupt smooth boundary.

Bk—4 to 10 inches; pale brown (10YR 6/3) gravelly fine sandy loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; soft, friable, slightly sticky and slightly plastic; few very fine and fine interstitial pores; 10 percent pebbles and 5 percent cobbles; few (1 percent) distinct secondary calcium carbonate concretions around rock fragments, strongly effervescent; strongly alkaline (pH 9.0); abrupt wavy boundary.

Bkq—10 to 17 inches; pale brown (10YR 6/3) very cobbly sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; few fine and medium roots; few very fine tubular pores; 10 percent pebbles and 15 percent cobbles; common (2 percent) distinct secondary calcium carbonate and silica concretions around rock fragments, violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bqkm—17 to 18 inches; very pale brown (10YR 8/2) cemented material, light yellowish brown (10YR 6/4) secondary silica concretions; massive; extremely hard, extremely firm; indurated duripan; violently effervescent; very abrupt wavy boundary.

R—18 inches; hard welded tuff.

Type location: Lincoln County, Nevada; in the White River Narrows Archeology District; 2,290 feet south and 2,620 feet west of the northeast corner section 28, T.1 S., R.62 E.; USGS White River Narrows 7.5 minute topographic quadrangle; 37 degrees, 50 minutes, 05 seconds north latitude and 115 degrees, 02 minutes, 06 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to duripan: 8 to 18 inches.

Depth to the bedrock: 9 to 20 inches.

Volcanic glass: 15 to 30 percent volcanic glass in the 0.02 to 2.0 mm fraction, mainly weathered from the parent material.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—12 to 18 percent.

Fine earth texture—Loam, very fine sandy loam, sandy loam or fine sandy loam.

Rock fragments—15 to 35 percent; mainly pebbles or cobbles.

A horizon:

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3, dry or moist.

Structure—Massive, weak thick platy or moderate fine subangular blocky.

Effervescence—Noneffervescent to slightly effervescent.

Calcium carbonate equivalent—0 to 1 percent in the material less than 2 mm.

Reaction—Slightly alkaline to strongly alkaline.

Bk and Bqk horizons:

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3, dry or moist.

Texture—Loam, very fine sandy loam, fine sandy loam, or sandy loam.

Clay content—12 to 18 percent.

Rock fragments—15 to 35 percent pebbles or cobbles.

Structure—Weak or moderate, fine or medium granular, weak or moderate, fine to coarse subangular blocky.

Consistence—Soft to slightly hard, dry, very friable or friable, moist.

Effervescence—Noneffervescent to violently effervescent.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Reaction—Moderately alkaline or strongly alkaline.

Other features—Some pedons have weak discontinuous silica cementation.

Bqkm horizon:

Value—6 through 8 dry, 4 through 6 moist

Chroma—2 through 4, dry or moist.

Nevu series

Depth class: Moderately deep to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 0 to 15 percent.

Elevation: 5,400 to 7,500 feet.

Mean annual precipitation: 10 to 12 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 90 to 120 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, and mountain big sagebrush.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Durixerolls

Typical pedon: Nevu gravelly ashy sandy loam, in a map unit of 3880, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 5 percent gravel and 5 percent cobbles.

A—0 to 5 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist, strong coarse subangular blocky structure parting to moderate medium granular; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine and fine vesicular, and many very fine interstitial pores; 15 percent pebbles; neutral (pH 7.3); clear smooth boundary.

Bt—5 to 11 inches; brown (10YR 5/3) gravelly ashy sandy clay loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common very fine and fine, and few medium roots; common fine and medium interstitial pores; common distinct clay films on faces of peds; 15 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

Btk—11 to 16 inches; pale brown (10YR 6/3) gravelly ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; weak medium and coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and fine, and common medium and coarse roots; many very fine and fine interstitial, and common very fine and fine tubular pores; common faint clay bridging sand grains, few faint clay films on faces of peds and lining pores; secondary calcium carbonates disseminated throughout and common (5 percent) concretions on bottom of rock fragments; 20 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Btkq—16 to 27 inches; very pale brown (10YR 7/3) gravelly ashy sandy clay loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine, fine, medium, and coarse roots; common fine, and few medium interstitial pores; common faint clay films on faces of peds and lining pores; secondary calcium carbonate disseminated throughout and common (5 percent) concretions around rock fragments, few (2 percent) secondary silica concretions on bottom of rock fragments; 30 percent pebbles; violently effervescent, strongly alkaline (pH 8.8); abrupt smooth boundary.

Bqkm—27 to 36 inches; white (10YR 8/1) cemented material, light gray (10YR 7/2) moist; strong thick platy structure; very rigid and brittle; indurated by secondary silica, alternating layers of secondary calcium carbonate that are moderately to strongly cemented; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2Bk—36 to 61 inches; light yellowish brown (10YR 6/4) gravelly ashy sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine interstitial pores; many (20 percent) coarse secondary calcium carbonate cylindrical masses, white (10YR 8/1); 25 percent pebbles; strongly effervescent; strongly alkaline (pH 8.8).

Type location: Lincoln County, Nevada; about 10 miles east of Highway 93 and 1 mile south of the Atlanta road, 50 feet west of the Atlanta cut-off road; 700 feet north and 2,100 feet west of the southeast corner section 33, T.6 N., R.67 E.; USGS Schoolmarm Basin 7.5 minute topographic quadrangle; 38 degrees, 19 minutes, 52 seconds north latitude and 114 degrees, 27 minutes, 32 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer and fall except intermittently moist for 10 to 20 days between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to the duripan and solum thickness: 20 to 27 inches.

Mollic epipedon: 10 to 18 inches thick, usually includes the upper part of the argillic horizon.

Particle size control section:

Clay content—25 to 35 percent .

Rock fragments—15 to 35 percent, mainly welded tuff pebbles.

A horizon:

Value—4 or 5 dry, 2 or 3 moist, the upper 1/4 to 1 inch in most pedons have dry value of 6.

Chroma—2 or 3, dry or moist.

Structure—Weak to strong, very fine to coarse, subangular blocky or granular.

Reaction—Neutral to moderately alkaline.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Dominantly ashy clay loam, ashy sandy clay loam or ashy loam in some pedons.

Rock fragments—15 to 35 percent, mainly pebbles.

Structure—Weak to strong, medium or coarse, subangular or angular blocky structure.

Btk horizon:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy clay loam or ashy sandy clay loam.

Structure—Medium or coarse subangular blocky.

Consistence—Slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Secondary calcium carbonate—Occurs as concretions on rock fragments or as masses.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—1 to 10 percent in the material less than 2mm.

Other—Some pedons have subhorizons that have secondary silica concretions on rock fragments.

Bqkm horizon:

Hue—10YR or 7.5YR.

Value—7 or 8 dry, and 4 through 7 moist.

Chroma—1 through 3, dry or moist.

Structure—Massive or has moderate or strong, fine to thick platy structure. When the duripan is platy, alternate plates are indurated, and the others are weakly or strongly cemented.

Other features—Secondary calcium carbonate concretions are common and are randomly oriented on the plate surfaces, secondary silica laminae or in fractures.

2Bk horizon:

Chroma—2 through 4, dry or moist.

Structure—Massive or subangular blocky.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Secondary calcium carbonate—Fine to coarse masses.

Effervescence—Strongly effervescent to violently effervescent.

Calcium carbonate equivalent—5 to 10 percent in the material less than 2 mm.

Reaction—Moderately alkaline or strongly alkaline.

Newvil series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 2 to 30 percent.

Elevation: 6,050 to 7,500 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Indian ricegrass, Thurber's needlegrass, bluebunch wheatgrass, and black sagebrush.

Taxonomic class: Ashy, glassy, mesic, shallow Vitritorrandic Durixerolls

Typical pedon: Newvil gravelly ashy coarse sandy loam in an area of Meadow Valley Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with about 30 percent pebbles and 5 percent cobbles. Lithology of the rock fragments is mainly welded tuff.

A—0 to 3 inches; grayish brown (10YR 5/2) gravelly ashy coarse sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many fine and common medium vesicular pores and many very fine and fine tubular pores; 30 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt—3 to 7 inches; grayish brown (10YR 5/2) gravelly ashy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine, and common medium roots; many very fine and fine interstitial and tubular pores; few faint clay films on faces of peds; 20 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Btk—7 to 12 inches; brown (10YR 4/3) gravelly ashy sandy clay loam, brown (10YR 4/3) moist; massive; hard, friable, very sticky and very plastic; many very fine and fine, common medium and coarse roots; many very fine and fine, and few medium tubular pores; few faint clay bridges between sand grains and few faint clay coatings on sand grains; 25 percent pebbles; common distinct secondary calcium carbonate concretions on bottom of rock fragments; noneffervescent in upper part but strongly effervescent in lower part; slightly alkaline (pH 7.6); clear wavy boundary.

Bqk—12 to 17 inches; very pale brown (10YR 8/2) gravelly ashy loam, very pale brown (10YR 7/3) moist; massive; hard, firm, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine and few fine tubular pores; 30 percent pebbles; discontinuously weakly cemented by secondary silica and calcium carbonate; very thin (2 millimeters thick) discontinuous very strongly cemented secondary silica lenses that fracture easily; few tongues of Btk horizon material in fractures and seams; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bqkm1—17 to 22 inches; white (10YR 8/1) cemented material, light gray (10YR 7/2) moist; strong thick platy structure; very rigid and extremely hard, extremely firm; many continuous, indurated, horizontal (2 to 5 millimeters thick) silica lenses alternating with moderately and strongly cemented material; many very fine and few fine roots matted on surface of indurated lenses; few very fine and fine tubular, and many interstitial pores; many faint secondary silica and calcium carbonate concretions lining tubular pores, and common faint secondary silica and calcium carbonate bridging sand grains; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm2—22 to 32 inches; very pale brown (10YR 8/2) cemented material, very pale brown (10YR 7/3); massive; hard and extremely hard, firm and extremely firm, nonsticky and nonplastic; continuous weakly cemented material with pockets that are strongly cemented by secondary silica, many thin (3 to 5 millimeters thick) horizontal and discontinuous diagonal indurated secondary silica lenses; few very fine and fine roots mostly matted on top of indurated lenses; many very fine and few fine interstitial pores; many distinct secondary silica and calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 8.8); gradual wavy boundary.

2Bqkm3—32 to 48 inches; very pale brown (10YR 8/2) cemented material, light gray (10YR 7/2) moist; massive; very hard and extremely hard, very firm and extremely firm; few very thin (2 millimeters thick) continuous indurated secondary silica lenses; few very fine and fine roots; many very fine and few fine interstitial pores; upper and lower parts of the horizon are more strongly cemented; many distinct secondary silica and calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 9.0); abrupt wavy boundary.

2C—48 to 60 inches, light gray (10YR 7/2) gravelly ashy very coarse sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; many fine and very fine roots; many fine and very fine interstitial pores; 30 percent pebbles; few faint secondary silica and calcium carbonate concretions around rock fragments; slightly effervescent; strongly alkaline (pH 8.8) abrupt smooth boundary.

Type location: Lincoln County, Nevada; about 660 feet north and 660 feet west of the southeast corner of sec. 2, T.2S., R.69E.; USGS Panaca Summit 7.5 minute topographic quadrangle; 37 degrees, 47 minutes, 49 seconds north latitude and 114 degrees, 13 minutes, 25 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to argillic horizon: 3 to 7 inches.

Thickness of the argillic horizon: 5 to 10 inches.

Mollic epipedon thickness: 7 to 10 inches, includes some or all of the argillic horizon.

Depth to duripan: 14 to 20 inches.

Thickness of duripan: 20 to 40 inches.

Other features: Noncalcareous in the upper part and noneffervescent to strongly effervescent in the lower part.

Volcanic glass content: 40 to 60 percent in the 0.2 to 2.0 millimeter fraction.

Control section:

Clay content—18 to 30 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—2 or 3, dry or moist.

Bt and Btk horizons:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly ashy sandy clay loam, gravelly ashy clay loam or gravelly ashy loam.

Clay content—18 to 30 percent.

Rock fragments—15 to 35 percent, mainly pebbles.

Structure—Granular or massive, weak or moderate, fine or medium prismatic or subangular blocky structure.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Reaction—Neutral to moderately alkaline.

Effervescence—Noneffervescent to strongly effervescent.

Bqk horizon:

Hue of 7.5YR or 10YR.

Value: 7 or 8 dry, 6 or 7 moist.

Chroma: 1 through 3, dry or moist.

Structure: Massive, weak or moderate, fine or medium prismatic or subangular blocky structure.

Calcium carbonate equivalent: 1 to 5 percent in the material less than 2 mm.

Reaction: Moderately alkaline to strongly alkaline.

Effervescence: Slightly effervescent to violently effervescent.

Bqkm and 2Bqkm horizons:

Value—6 through 8 dry, 5 through 7 moist.

Chroma—1 through 4, dry or moist.

Cementation—Alternating layers ranging from indurated to weakly cemented. Indurated laminae up to 5mm thick are common or many.

Consistence—Hard to very rigid, dry, and firm to very rigid, moist.

Reaction—Moderately alkaline to very strongly alkaline.

Other features—The thickness of the duripan is 20 to 40 inches and may include up to 20 inches of weakly cemented materials.

2C horizon:

Value—7 or 8 dry, 5 through 7 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Effervescence—Noneffervescent to slightly effervescent.

Nuhelen series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Hills and mountains.

Parent material: Residuum and colluvium from welded tuff with a component of volcanic ash.

Slope range: 8 to 50 percent.

Elevation: 5,750 to 8,150 feet.

Mean annual precipitation: 10 to 12 inches.

Mean annual air temperature: 48 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Singleleaf pinyon and Utah juniper woodland with an understory of bluebunch wheatgrass, Indian ricegrass, and black sagebrush. Other areas may support muttongrass and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls

Typical pedon: Nuhelen gravelly coarse sandy loam in an area of map unit 1110, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 20 percent pebbles, 10 percent cobbles, and 5 percent stones. Lithology of the fragments is welded tuff.

Oi—0 to 1 inches; slightly decomposed plant materials.

A1—1 to 2 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, very dark brown (10YR 2/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine and few fine interstitial and tubular pores; 15 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

A2—2 to 4 inches; brown (10YR 5/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure parting to moderate medium granular; soft, very friable, slightly sticky and slightly plastic; common very fine, and few fine and medium roots; common very fine and fine, and few medium interstitial and tubular pores; 15 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.5); clear smooth boundary.

Bt1—4 to 6 inches; brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; few very fine and fine interstitial and tubular pores; common faint clay films on faces of peds; 20 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.7); clear wavy boundary.

Bt2—6 to 9 inches; brown (10YR 5/3) very cobbly sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and moderately plastic; few very fine and fine roots; few very fine and fine tubular pores; common distinct clay films on faces of peds; 25 percent pebbles and 15 percent cobbles, slightly alkaline (pH 7.7); clear wavy boundary.

Bt3—9 to 13 inches; brown (10YR 5/3) extremely cobbly sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; common distinct clay films on faces of peds; 40 percent pebbles, 20 percent cobbles, and 5 percent stones; slightly alkaline (pH 7.8); abrupt smooth boundary.

R—13 inches; hard welded tuff.

Type location: Lincoln County, Nevada; 3.5 miles north of Wilson Ranch, 1 mile northwest of Brown Spring, 100 yards east of road; about 1,740 feet west and 740 feet south of the northeast corner of section 16, T. 5 N., R. 67 E.; USGS Schoolmarm Basin 7.5 minute topographic quadrangle; 38 degrees 18 minutes, 5 seconds north latitude and 114 degrees 28 minutes, 5 seconds west longitude, NAD 83.

Ranges in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry summer and fall except for 10 to 20 days cumulative from July to September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 7 to 10 inches (some pedons must be mixed to 7 inches); includes all or part of the argillic horizon.

Depth to bedrock: 7 to 14 inches.

Thickness of argillic horizon: 5 to 10 inches.

Reaction: Neutral to moderately alkaline.

Mineralogy: 15 to 30 percent volcanic glass in the 0.02 to 2.0 millimeter fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—18 to 27 percent.

Rock fragment content—35 to 60 percent. Lithology of the rock fragments is mainly welded tuff.

Oi horizon:

Other features—Slightly decomposed organic material (rubbed fiber content is greater than 40 percent).

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Value—4 or 5 dry, 2 through 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Sandy loam, sandy clay loam or loam.

Clay content—14 to 25 percent.

Rock fragments—25 to 45 percent; mainly gravel.

Bt2 and Bt3 horizons:

Value—4 or 5 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy clay loam, sandy loam or clay loam.

Clay content—Averages 18 to 30 percent; subhorizons range from 17 to 35 percent.

Rock fragments—35 to 65 percent; mainly cobbles.

Nyala series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from limestone and welded tuff.

Slope range: 2 to 8 percent.

Elevation: 4,950 to 5,300 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 50 to 57 degrees F.

Frost-free period: 120 to 140 days.

Native plants: Indian ricegrass, shadscale, and bud sagebrush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Haplargids

Typical pedon: Nyala sandy loam in an area of Pahranaagat-Penoyer Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; light gray (10YR 7/2) sandy loam, brown (10YR 4/3) moist; moderate thick platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine vesicular pores; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

A2—3 to 12 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine tubular pores; 10 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Btk1—12 to 18 inches; pale brown (10YR 6/3) sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine and fine tubular pores; many distinct clay films on faces of peds, lining pores, and bridging sand grains; few to common medium very pale brown (10YR 8/2) masses of secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 9.2); abrupt smooth boundary.

Btk2—18 to 22 inches; pale brown (10YR 6/3) sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine and fine tubular pores; few faint clay films on faces of peds, lining pores, and bridging sand grains; common coarse very pale brown (10YR 8/2) masses of secondary carbonate and common fine very hard secondary calcium carbonate nodules that range up to 1/4 inch in diameter; violently effervescent; very strongly alkaline (pH 9.6); clear wavy boundary.

Bqk1—22 to 32 inches; very pale brown (10YR 8/2) sandy loam, light gray (10YR 7/2) moist; weak thick platy structure; hard, firm, and brittle, slightly sticky and slightly plastic; few very fine and fine roots; few fine tubular and many very fine interstitial pores; weakly cemented by secondary silica; few fine filaments of secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 9.6) clear wavy boundary.

Bqk2—32 to 42 inches; light gray (10YR 7/2) sandy loam, brown (10YR 5/3) moist; weak thick platy structure; hard, friable, nonsticky and nonplastic; few very fine and fine roots; few fine tubular and many interstitial pores; few hard and firm durinodes; many very fine white filaments of secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 9.6) clear wavy boundary.

C1—42 to 55 inches; light gray (10YR 7/2) loamy sand, brown (10YR 5/3) moist; few thin lenses of sandy loam that are hard and firm; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular and many fine interstitial pores; violently effervescent; very strongly alkaline; (pH 9.6); abrupt smooth boundary.

C2—55 to 72 inches; pale brown (10YR 6/3) gravelly loamy sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 20 percent pebbles; violently effervescent; very strongly alkaline (pH 9.6).

Type location Lincoln County, Nevada; 550 feet north and 100 feet east of the center of section 21, T.2 S., R.56 E. ; USGS Worthington Peak SW 7.5 minute topographic quadrangle; 37 degrees, 45 minutes, 35 seconds north latitude and 115 degrees, 41 minutes, 27 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 cumulative days between July and October due to convection storms; typic aridic moisture regime.

Soil temperature: 53 to 59 degrees F.

Depth to base of argillic horizon and upper zone of silica accumulation: 20 to 30 inches.

Depth to secondary carbonates: 9 to 22 inches.

Salinity (EC): 0 to 4 mmhos/cm.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragments—0 to 10 percent pebbles. Lithology of fragments is mixed, and consist of tuff, limestone, dolomite, quartzite, shale, sandstone, and siltstone.

A horizons:

Value—6 or 7 dry.

Chroma—2 or 3, dry or moist.

Btk horizons:

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy clay loam or clay loam.

Clay Content—27 to 35 percent.

Rock fragments—0 to 10 pebbles.

Structure—Weak or moderate, fine to coarse subangular blocky or prismatic.

Consistence—Slightly hard or hard dry, very friable or friable moist.

Reaction—Moderately alkaline to very strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Identifiable secondary carbonates—Few to common medium masses of secondary carbonate and common fine, very hard carbonate nodules are in subhorizons of most pedons. Some pedons have thin Bk horizons underlying the Btk horizons.

Calcium carbonate equivalent—3 to 10 percent in the material less than 2 mm.

Bqk horizons:

Value—7 or 8 dry, 5 through 7 moist.

Chroma—1 through 4, dry or moist.

Clay content—12 to 20 percent.

Rock fragments—0 to 10 percent pebbles, some pedons have thin strata of 70 percent pebbles.

Structure—Medium to thick platy or massive.

Consistence—Hard or very hard, dry, friable to firm moist, nonsticky or slightly sticky and nonplastic or slightly plastic, wet.

Reaction—Strongly alkaline or very strongly alkaline.

Silica cementation—Subhorizons are continuously weakly cemented; up to 30 percent hard and firm durinodes are common in any subhorizon.

Identifiable secondary carbonates—Few to many very fine to medium masses or filaments of secondary calcium carbonate in subhorizons.

Calcium carbonate equivalent—3 to 10 percent in the material less than 2 mm.

C horizons:

Texture—Loamy sand or gravelly loamy sand.

Rock fragments—0 to 20 percent pebbles and 0 to 5 percent cobbles.

Reaction—Strongly alkaline or very strongly alkaline.

Calcium carbonate equivalent—5 to 10 percent in the material less than 2 mm.

Okayview series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium.

Landform: Rock pediments and mountains.

Parent material: Residuum derived from welded tuff.

Slope range: 4 to 15 percent.

Elevation: 5,400 to 7,250 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Bluebunch wheatgrass, Indian ricegrass, and mountain big sagebrush.

Taxonomic class: Ashy, glassy, mesic, shallow Vitritorrandic Argixerolls

Typical pedon: Okayview gravelly ashy coarse sandy loam in an area of 1232, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 10 percent pebbles, 10 percent cobbles, and 5 percent stones. Lithology of the fragments is welded tuff.

A—0 to 3 inches; brown (10YR 5/3) gravelly ashy coarse sandy loam, dark brown (10YR 3/3) moist; moderate thick platy structure; soft, very friable, slightly sticky and nonplastic; common very fine, few fine and medium roots; common very fine, few fine and medium vesicular pores; 15 percent pebbles, 5 percent cobbles, and 2 percent stones; neutral (pH 6.9); abrupt smooth boundary.

Bt1—3 to 7 inches; dark grayish brown (10YR 4/2) ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; few very fine, common fine and medium roots; few very fine and fine irregular and tubular pores; common faint clay films on faces of peds; 10 percent pebbles; neutral (pH 6.9); clear smooth boundary.

Bt2—7 to 11 inches; dark grayish brown (10YR 4/2) ashy coarse sandy loam, very dark grayish brown (10YR 3/2) moist; strong coarse subangular blocky structure parting to strong medium subangular blocky; hard, firm, moderately sticky and moderately plastic; few very fine, common fine and medium roots; few very fine and fine irregular and tubular pores; many distinct clay films on faces of peds; 10 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Crt—11 to 21 inches; pale brown (10YR 6/3) moderately weathered welded tuff, brown (10YR 4/3) moist; excavation difficulty is moderate; many distinct and few prominent clay films in fracture planes; few fine roots in fracture planes; few very fine irregular and tubular pores; slightly acid (pH 6.5)

Type location: Lincoln County, Nevada; on the east side of the Fairview Range, about 6 miles south of Pony Springs, 0.5 mile west of State Highway 93, and 30 feet west of an unimproved road; about 200 feet south and 1,700 feet west of the northeast corner section 17, T.4 N., R.66 E.; USGS Bristol Range NE 7.5 minute topographic quadrangle; 38 degrees, 12 minutes, 55 seconds north latitude and 114 degrees, 35 minutes, 51 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Thickness of the mollic epipedon: 10 to 14 inches.

Depth to argillic horizon: 3 to 5 inches.

Thickness of the argillic horizon: 7 to 15 inches.

Depth to weathered bedrock: 10 to 20 inches.

Volcanic glass content: 40 to 60 percent in the 0.2 to 2.0 millimeter fraction.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—5 to 15 percent, mainly pebbles.

A horizon:

Value—4 or 5 dry; 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Structure—Granular, platy or subangular blocky.

Bt horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy coarse sandy loam, ashy sandy clay loam, and ashy sandy loam.

Clay content—18 to 27 percent.

Rock fragment content—5 to 15 percent, some subhorizons contain up to 20 percent pebbles.

Structure—Medium to coarse subangular blocky.

Crt horizon:

Clay films—Few to many, distinct to prominent coatings on the surface of bedrock fractures.

Bedrock—Slightly to moderately weathered.

Palinor series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from limestone and dolomite.

Slope range: 2 to 15 percent.

Elevation: 5,400 to 7,600 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic, shallow Xeric Haplodurids

Typical pedon: Palinor gravelly loam in a map unit of 1211, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; pale brown (10YR 6/3) gravelly loam, dark yellowish brown (10YR 3/4) moist; weak very thick platy structure; soft, very friable, nonsticky and slightly plastic; common very fine and fine roots; many very fine and fine vesicular and common very fine, fine, and medium tubular pores; 25 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bw—3 to 6 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine and fine, and common medium roots; common very fine and fine tubular pores; 25 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—6 to 16 inches; light yellowish brown (10YR 6/4) extremely gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and slightly plastic; many very fine and fine, and common medium and coarse roots; common very fine and fine tubular pores; common (5 percent) calcium carbonate coatings around rock fragments; 60 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); very abrupt wavy boundary.

Bkqm—16 to 35 inches; white (10YR 8/1) cemented material, light gray (10YR 7/2) moist; very rigid, extremely firm; moderately to indurated cementation with a (2 to 5 mm) laminar cap; violently effervescent; abrupt wavy boundary.

2Ckq—35 to 40 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine interstitial pores; discontinuous firm and brittle matrix with pockets of weak cementation; 70 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

3Ck—40 to 60 inches; pale brown (10YR 6/3) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine interstitial pores; 65 percent pebbles; secondary calcium carbonate is disseminated throughout; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; northwest area of Cave Valley, about 1,800 feet south and 1,920 feet east of the northwest corner of section 18, T.9 N., R.64 E.; USGS Parker Station 7.5 minute topographic quadrangle; 38 degrees, 38 minutes, 25 seconds north latitude and 114 degrees, 50 minutes, 9 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and fall; Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to duripan: 14 to 20 inches.

Calcium carbonate equivalent: 40 to 60 percent of the less than 20 mm fraction.

Reaction: Moderately alkaline or strongly alkaline.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—45 to 75 percent pebbles and 0 to 5 percent cobbles.

A horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Bw horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 or 3, dry or moist.

Structure—Weak or moderate, fine or medium subangular blocky.

Rock fragment—15 to 45 percent pebbles.

Consistence—Soft or slightly hard, dry, nonsticky or slightly sticky, wet.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—15 to 25 percent, in the material less than 2 mm.

Bk horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam or loam.

Clay content—10 to 18 percent.

Rock fragments—50 to 80 percent, mainly pebbles.

Structure—Subangular blocky or massive.

Consistence—Soft or slightly hard dry, very friable or friable moist, nonsticky or slightly stick, wet.

Calcium carbonate equivalent—20 to 40 percent, in the material less than 2 mm.

Bkqm horizon:

Value—7 or 8, dry or moist.

Chroma—1 through 3, dry or moist.

Ckq horizon:

Texture—Stratified very gravelly coarse sandy loam to very gravelly sandy loam.

Value—6 through 8 dry, 4 through 6 moist, may be variegated in coarse textured subhorizons.

Chroma—1 through 3, dry or moist.

Rock fragments—Averages 45 to 70 percent, mainly pebbles.

Consistence—Loose or slightly hard to hard dry; very friable to firm moist, nonplastic or slightly plastic.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—25 to 45 percent, in the material less than 2 mm.

Other features—Discontinuous weakly to strongly silica and lime cemented subhorizons are in most pedons.

Ck horizon:

Texture—Stratified extremely gravelly coarse sand to gravelly sandy loam.

Rock fragments—45 to 70 percent, mainly pebbles.

Consistence—Loose or slightly hard, dry, loose or very friable, moist, and nonplastic or slightly plastic, wet.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—25 to 45 percent, in the material less than 2 mm.

Pamsdel series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Medium.

Landform: Upper fan remnants.

Parent material: Alluvium derived from limestone with a minor component of shale.

Slope range: 2 to 8 percent.

Elevation: 5,800 to 7,250 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 45 to 51 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Bluebunch wheatgrass, mountain big sagebrush, and Stansbury's cliffrose.

Taxonomic class: Loamy-skeletal, carbonatic, mesic, shallow Haploduridic Durixerolls

Typical pedon: Pamsdel gravelly loam in an area of Meadow Valley Area, Nevada and Utah, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with about 5 percent lichen, 5 percent mosses, 30 percent pebbles and 10 percent cobbles. Lithology of the rock fragments is limestone and shale.

A1—0 to 4 inches, brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; strong medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and few fine interstitial and tubular pores; 15 percent pebbles; strongly effervescent; neutral (pH 7.3); clear smooth boundary.

A2—4 to 10 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine, many medium, and few coarse roots; common very fine and fine interstitial and tubular pores; calcium carbonate equivalent is 12 percent (less than 2mm fraction); 25 percent pebbles and 20 percent pebble-size very strongly cemented weathered duripan fragments, and 5 percent cobbles; violently effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk—10 to 19 inches; light gray (10YR 7/2) very gravelly loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; common very fine and fine interstitial and tubular pores; secondary calcium carbonate is disseminated throughout and common (10 percent) coats around rock fragments; calcium carbonate equivalent is 33 percent (less than 2mm fraction); 25 percent pebbles and 20 percent pebble-size weathered indurated duripan fragments; violently effervescent; moderately alkaline (pH 8.4); very abrupt smooth boundary.

Bqkm1—19 to 31 inches; very pale brown (10YR 8/2) cemented material, pale brown (10YR 6/3) moist; strong thick platy structure; very rigid, extremely hard; indurated by secondary silica and calcium carbonate in the upper 0.5 to 1 inch, and weakly to moderately cemented below; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bqkm2—31 to 53 inches; very pale brown (10YR 8/2) cemented material, light yellowish brown (10YR 6/4) moist; massive; extremely hard and slightly rigid; few very fine roots; few very fine and fine interstitial pores; strongly cemented by secondary silica and calcium carbonate; few reddish brown (5YR 5/4) relict iron concentrations; violently effervescent; strongly alkaline (pH 8.7); abrupt smooth boundary.

Bqk—53 to 62 inches; gravel, moist; few very fine and fine roots; 85 percent pebbles and 5 percent cobbles; many brown (7.5YR 4/4) irregular iron concentrations; secondary carbonate and silica cementing sand grains to rock fragments; violently effervescent; strongly alkaline (pH 8.8).

Type location: Lincoln County, Nevada; approximately 5 miles northwest of Pioche, 100 feet east of the Castleton Road, 200 feet south of the power line crossing; about 2,300 feet south and 2,100 feet east of the northwest corner of section 18, T.1 N., R.67 E.; USGS Highland Peak 7.5 minute topographic quadrangle; 37 degrees, 56 minutes, 52 seconds north latitude and 114 degrees, 30 minutes, 42 seconds west longitude, NAD27.

Ranges in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 days cumulative between July and September due to summer convection storms. Aridic bordering on xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Thickness of mollic epipedon: 7 to 14 inches.

Thickness of calcic horizon: 5 to 15 inches.

Depth to duripan: 14 to 20 inches.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—35 to 50 percent, mainly pebbles.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5, dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Clay content—18 to 27 percent.

Rock fragments—15 to 55 percent, mainly pebbles or pebble-sized very strongly cemented or indurated duripan fragments.

Calcium carbonate equivalent—5 to 15 percent.

Reaction—Neutral to moderately alkaline.

Bk horizon:

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 5 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam or sandy loam.

Clay content—18 to 27 percent.

Rock fragments—35 to 55 percent, mainly pebbles or pebble-sized very strongly cemented or indurated duripan fragments.

Calcium carbonate equivalent—25 to 35 percent of the less than 2mm soil fraction, and 45 to 60 percent including the less than 20mm soil fraction.

Reaction—Moderately alkaline to strongly alkaline.

Bqkm horizon:

Value—7 or 8 dry, 6 through 8 dry.

Chroma—2 through 4, dry or moist.

Cementation—Indurated in the upper 1 to 6 inches, with weakly to strongly cemented material below.
Other features—Some pedons have iron concretions.

Bqk horizons:

Hue—10YR or 7.5YR.

Rock fragments—60 to 95 percent, mainly limestone and shale pebbles.

Secondary calcium carbonate—Many concretions cementing sand grains to rock fragments and on the bottoms of rock fragments.

Secondary silica—Many concretions cementing sand grains to rock fragments and on the bottoms of rock fragments.

Other features—Some pedons have iron concretions.

Panacker series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low.

Landform: Alluvial flats.

Parent material: Alluvium over lacustrine deposits derived from limestone and welded tuff.

Slope range: 2 to 4 percent.

Elevation: 4,550 to 4,650 feet.

Mean annual precipitation: 5 to 7 inches.

Mean annual air temperature: 53 to 57 degrees F.

Frost-free period: 120 to 160 days.

Native plants: Indian ricegrass, fourwing saltbush, and winterfat.

Taxonomic class: Fine-loamy, mixed, semiactive, mesic Sodic Haplocalcids

Typical pedon: Panacker fine sandy loam, in an area of map unit 3192, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with about 20 percent cyanobacteria which are evident when wet.

A—0 to 5 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; strong thick platy structure parting to moderate thin platy; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine, and common fine and few medium vesicular pores; calcium carbonate equivalent is 12 percent; strongly effervescent; strongly alkaline (pH 8.7); clear smooth boundary.

Bw—5 to 13 inches; pale brown (10YR 6/3) fine sandy loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and few fine and medium roots; common very fine and fine, and few medium interstitial and tubular pores; calcium carbonate equivalent is 12 percent; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

Bkk1—13 to 25 inches; white (10YR 8/1) sandy clay loam, light brownish gray (10YR 6/2) moist; moderate coarse subangular blocky structure; very hard, firm, moderately sticky and slightly plastic; few very fine and medium, and common fine roots; common very fine and fine, and few medium interstitial and tubular pores; secondary calcium carbonate is finely disseminated; stage of carbonate accumulation is stage 3; calcium carbonate equivalent is 20 percent; violently effervescent; very strongly alkaline (pH 10.1); clear smooth boundary.

Bkk2—25 to 39 inches; light gray (10YR 7/2) sandy clay loam, pale brown (10YR 6/3) moist; moderate very thick platy structure parting to moderate medium subangular blocky; slightly hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine and fine, and few medium interstitial and tubular pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 16 percent; violently effervescent; very strongly alkaline (pH 9.8); clear smooth boundary.

2Bkqn—39 to 73 inches; light gray (10YR 7/2) sandy loam, grayish brown (10YR 5/2) moist; moderate coarse subangular blocky structure parting to weak medium subangular blocky; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine and fine, and few medium interstitial pores; secondary calcium carbonate is finely disseminated, common (5 percent) irregular masses of secondary calcium carbonate on faces of peds in upper part; 2

percent hard and brittle, moderately cemented durinodes; calcium carbonate equivalent is 14 percent; violently effervescent; very strongly alkaline (pH 9.8).

Type location: Lincoln County, Nevada; about 4.2 miles southwest of the Ely Springs Ranch in Dry Lake Valley and about 50 feet north of jeep trail; 2,300 feet north and 1,800 feet east of the southwest corner section 14, T.1 S., R.64 E.; USGS Deadman Spring SE 7.5 minute topographic quadrangle; 37 degrees, 51 minutes, 48 seconds north latitude and 114 degrees, 46 minutes, 54 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Typic aridic soil moisture regime.

Soil temperature: 55 to 59 degrees F.

Depth to calcic horizon: 4 to 15 inches.

Thickness of the calcic horizon: 10 to 30 inches.

Electrical conductivity: 0 to 2.

Particle size control section:

Clay content—18 to 35 percent.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Carbonate clay content—1 to 5 percent.

Calcium carbonate equivalent—10 to 20 percent of the less than 2 mm fraction.

Reaction—Moderately alkaline or strongly alkaline.

Bw horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Fine sandy loam or sandy clay loam.

Clay content—18 to 35 percent.

Carbonate clay content—2 to 10 percent.

Structure—Strong or moderate, medium to coarse subangular blocky.

Calcium carbonate equivalent—10 to 20 percent of the less than 2 mm fraction.

Reaction—Moderately alkaline or strongly alkaline.

Sodicity—SAR is 0 to 5.

Bkk horizon:

Value—6 through 8 dry, 5 through 7 moist.

Chroma—1 through 3 dry, 2 through 4 moist.

Texture—Sandy loam or sandy clay loam.

Clay content—18 to 35 percent.

Carbonate clay content—2 to 10 percent.

Structure—Strong or moderate, medium to coarse subangular blocky and moderate very thick platy structure parting to subangular blocky.

Calcium carbonate equivalent—15 to 25 percent of the less than 2 mm fraction.

Carbonate accumulation stage—Stage 3 with about 75 to 100 percent plugging of fine pores.

Reaction—Strongly alkaline or very strongly alkaline.

Sodicity—SAR is 2 to 30.

2Bkqn horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—1 or 2 dry, 1 through 3 moist.

Texture—Fine sandy loam, sandy loam, or sandy clay loam. Some pedons contain discontinuous pockets of loamy sand.

Clay content—Averages 18 to 35 percent.

Carbonate clay content—0 to 5 percent.

Structure—Moderate or strong very thick platy or strong or moderate, medium to coarse subangular blocky.

Durinodes—2 to 15 percent moderately to strongly cemented durinodes.

Calcium carbonate equivalent—5 to 15 percent of the less than 2 mm fraction.

Sodicity—SAR is 13 to 30.

Patter series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very low.

Landform: Floodplains.

Parent material: Alluvium derived from lacustrine deposits with a component of volcanic ash..

Slope range: 0 to 4 percent.

Elevation: 5,600 to 5,850 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 52 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Basin wildrye, Wyoming big sagebrush, and winterfat.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocambids

Typical pedon: Patter gravelly sandy loam, in a map unit of 1103, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; moderate very thick platy structure parting to moderate very fine platy; soft, very friable, nonsticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bw—2 to 14 inches; pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 4/4) moist; strong medium and coarse subangular blocky structure parting to weak fine platy; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, medium, and coarse roots; many very fine, fine, medium, coarse, and very coarse tubular pores; 5 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bkq1—14 to 31 inches; pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 4/4) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few fine, medium, and coarse tubular pores; 20 percent durinodes; common (5 percent) medium (2 to 4 mm) secondary calcium carbonate concretions throughout; 5 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bkq2—31 to 47 inches; pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; hard, very friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; 25 percent durinodes; common (10 percent) medium (2 to 4 mm) secondary calcium carbonate concretions throughout; 5 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

C—47 to 60 inches; pale brown (10YR 6/3) gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard and friable, slightly sticky and moderately plastic; few very fine roots; few very fine tubular pores; 15 percent pebbles; violently effervescent; strongly alkaline (pH 8.8).

Type location: Lincoln County, Nevada; about 10 miles north of Pioche; 1,650 feet south and 910 feet west of the northeast corner of section 26, T.3 N., R.66 E.; USGS Bristol Range SE 7.5 minute topographic quadrangle; 38 degrees, 5 minutes, 45 seconds north latitude and 114 degrees, 32 minutes, 28 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 49 to 53 degrees F.

Depth to secondary calcium carbonate and silica cementation: 10 to 20 inches.

Volcanic glass content: 5 to 25 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—10 to 18 percent.

Rock fragments—5 to 15 percent.

A horizon:

Value—3 or 4 moist.

Chroma—2 or 3, dry or moist.

Bw horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 3 or 4 moist.

Texture—Very fine sandy loam, loam, or silt loam with 15 percent or more fine sand or coarser.

Structure—Weak to strong, medium to coarse subangular blocky parting to platy in some pedons.

Consistence—Soft or slightly hard, dry.

Calcium carbonate equivalent—5 to 20 percent of the less than 2 mm fraction.

Reaction—Moderately alkaline or strongly alkaline.

Bqk horizons:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 3 or 4 moist.

Texture—Very fine sandy loam, loam, or silt loam with 15 percent or more fine sand or coarser.

Structure—Massive or subangular blocky.

Consistence—Slightly hard or hard, dry, very friable through firm, moist, and nonsticky through moderately sticky, wet.

Calcium carbonate equivalent—10 to 30 percent of the less than 2 mm fraction.

Secondary calcium carbonate—Masses or concretions

Reaction—Moderately alkaline or strongly alkaline.

Other features—Cylindrical durinodes comprise 20 to 50 percent of some horizons between 10 and 40 inches of the surface.

C horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 3 or 4 moist.

Consistence—Slightly plastic or moderately plastic

Calcium carbonate equivalent—10 to 30 percent of the less than 2 mm fraction.

Reaction—Moderately alkaline or strongly alkaline.

Penelas series

Depth class: Shallow and very shallow.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from shale.

Slope range: 8 to 30 percent.

Elevation: 6,300 to 7,850 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 50 to 54 degrees F.

Frost-free period: 100 to 115 days.

Native plants: Indian ricegrass, bluebunch wheatgrass, black sagebrush, and Stansbury's cliffrose.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplargids

Typical pedon: Penelas very channery loam in an area of map unit 1525, rangeland (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 50 percent channers and 10 percent flagstones.

A—0 to 5 inches; brown (10YR 5/3) very channery loam, dark yellowish brown (10YR 3/4) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine, few fine and medium interstitial and tubular pores; 45 percent channers and 10 percent flagstones; slightly alkaline (pH 7.7); clear smooth boundary.

Bt—5 to 13 inches; yellowish brown (10YR 5/4) very channery clay loam, dark yellowish brown (10YR 4/4) moist, moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine and medium roots; common very fine and fine tubular and interstitial pores; common distinct clay films on faces of peds and lining pores; 40 percent channers and 10 percent flagstones; moderately alkaline (pH 8.0); gradual smooth boundary.

Cr—13 to 18 inches; light yellowish brown (10YR 6/4) platy shale bedrock, dark yellowish brown (10YR 4/4) moist; common distinct clay films lining fracture faces.

Type location: Lincoln County, Nevada; on the west side of Highland Peak, about 0.3 mile east of the Comet Mine, on a road cut; 1,740 feet south and 330 feet east of the northwest corner section 4, T.1 S., R.66 E.; USGS Highland Peak 7.5 minute topographic quadrangle; 37 degrees, 53 minutes, 27 seconds north latitude and 114 degrees, 36 minutes, 28 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring months, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convective storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to soft rock: 5 to 14 inches.

Reaction: Slightly alkaline to strongly alkaline.

Carbonates: Commonly noncalcareous, but slightly effervescent in the A horizon or have some secondary calcium carbonate concretion on bottom of the shale rocks in some pedons.

Calcium carbonate equivalent: 0 to 5 percent in the material less than 2 mm.

Particle size control section:

Clay content—20 to 30 percent.

Rock fragments—60 to 75 percent, mainly channers or flagstones.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Structure—Moderate to strong very fine to medium angular or subangular blocky structure, or massive.

Texture—Loam, clay loam or silty clay loam with less than 35 percent clay and less than 35 percent sand.

Consistence—Very friable to friable, moist, moderately sticky and very sticky, moderately plastic and very plastic, wet.

Cr horizon:

Bedrock is generally platy but is massive in some pedons.

Penoyer series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low.

Landform: Inset fans, fans skirts, alluvial flats, and basin floors.

Parent material: Alluvium derived from limestone, welded tuff, and lacustrine deposits.

Slope range: 0 to 4 percent.

Elevation: 4,250 to 5,800 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 52 to 56 degrees F.

Frost-free period: 130 to 170 days.

Native plants: Indian ricegrass and winterfat.

Taxonomic class: Coarse-silty, mixed, superactive, calcareous, mesic Typic Torriorthents

Typical pedon: Penoyer very fine sandy loam, in a map unit of 1104, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) very fine sandy loam, yellowish brown (10YR 5/4) moist; weak thick platy structure; soft, very friable, slightly sticky and moderately plastic; few very fine, fine, and medium roots; common very fine, fine, and medium interstitial and few very fine and fine tubular pores; very slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—3 to 8 inches; pale brown (10YR 6/3) very fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine granular structure; soft, very friable, slightly sticky and moderately plastic; common very fine, fine, and medium roots; many very fine, fine, and medium interstitial and few very fine and fine tubular pores; very slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C1—8 to 16 inches; pale brown (10YR 6/3) silt loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; many very fine, fine, and medium roots; common very fine and fine tubular pores; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C2—16 to 30 inches; light yellowish brown (10YR 6/4) silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine, and medium roots; common very fine and fine tubular pores; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C3—30 to 60 inches; light yellowish brown (10YR 6/4) silt loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; many very fine, fine, and medium roots; common very fine and fine tubular pores; slightly effervescent; moderately alkaline (pH 8.2).

Type location: Lincoln County, Nevada; upper Bailey Wash; about 380 feet south and 600 feet east of the northwest corner of section 16, T.4 N. R.64 E.; USGS Bailey Wash 7.5 minute topographic quadrangle; 38 degrees, 13 minutes, 2 seconds north latitude and 114 degrees, 48 minutes, 34 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months for 10 to 20 days cumulative between July and October due to convection storms. Aridic soil moisture regime.

Soil temperature: 53 to 59 degrees F.

Calcium carbonate equivalent: 10 to 30 percent of the less than 2 mm fraction.

Particle size control section:

Clay content—10 to 18 percent.

A horizon:

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Reaction—Moderately alkaline to strongly alkaline.

C horizons:

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Structure—Subangular blocky, or massive. Platy structure may occur in subhorizons below 40 inches.

Consistence—Soft to hard, dry, very friable or friable, moist, slightly sticky to moderately sticky and slightly plastic to moderately plastic, wet.

Texture—Silt loam, but strata of very fine sandy loam, loam or silty clay loam are in some pedons.

Effervescence—Slightly effervescent to violently effervescent.

Reaction—Moderately alkaline to very strongly alkaline.

Pintwater series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from welded tuffs.

Slope range: 15 to 50 percent.

Elevation: 5,350 to 5,550 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 50 to 52 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Desert needlegrass, needleandthread, green ephedra.

Taxonomic class: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Torriorthents

Typical pedon: Pintwater gravelly fine sandy loam in an area of Pahranaagat-Penoyer Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 1 inch; light brownish gray (10YR 6/2) gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial pores; 20

percent pebbles; strongly effervescent; contains considerable mica, sanidine, and clear quartz crystals; strongly alkaline (pH 8.5); abrupt smooth boundary.

A2—1 to 4 inches; pale brown (10YR 6/3) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; weak coarse platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine and very fine roots; many fine and medium vesicular pores; 20 percent pebbles; strongly effervescent; strongly alkaline (pH 8.7); clear smooth boundary.

Bqk—4 to 20 inches; very pale brown (10YR 7/3) very stony fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; many fine and very fine roots; many very fine and fine interstitial pores; 15 percent stones, 15 percent cobbles, and 15 percent pebbles; violently effervescent with few to common fine flecks of segregated secondary calcium carbonate and secondary silica and calcium carbonate pendants on bottom of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.

R—20 inches; very pale brown (10YR 8/2) fractured ignimbrite, brown (10YR 5/3) moist; secondary silica and calcium carbonate coats in fractures and on the bottom of rock fragments, often as pendants.

Type location: Lincoln County, Nevada; northern portion of ridge east of Highway 93, about 0.5 mile south of Upper Pahranaagat Lake outlet; about 800 feet east and 700 feet south of the west 1/4 corner of section 2, T.8 S, R.61 E. USGS Alamo SE 7.5 minute topographic quadrangle; 37 degrees, 16 minutes, 46 seconds north latitude and 115 degrees, 6 minutes, 56 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months and for 10 to 20 days cumulative between July and October due to convection storms. Aridic soil moisture regime.

Soil temperature: 53 to 57 degrees F.

Reaction: Moderately alkaline or strongly alkaline.

Depth to bedrock: 10 to 20 inches.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—35 to 70 percent.

A horizons:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 or 3, dry or moist.

Effervescence—Slightly effervescent to strongly effervescent.

Calcium carbonate equivalent—5 to 15 percent of the material less than 2 mm.

Bqk horizon:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam or sandy loam.

Rock fragments—45 to 70 percent, includes stones, cobbles, and pebbles.

Consistence—Nonsticky to slightly sticky and nonplastic to slightly plastic wet.

Secondary calcium carbonate accumulation—Occurs as pendants or coats on rock fragments or as masses and soft filaments. Less than 5 percent by volume.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—10 to 20 percent of the material less than 2 mm.

Other features—Accessory silica pendants or coatings are in some pedons.

Pioche series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from welded tuff.

Slope range: 15 to 50 percent.

Elevation: 6,200 to 8,050 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Utah juniper and singleleaf pinyon woodland, with an understory of bluebunch wheatgrass, Thurber's needlegrass, and mountain big sagebrush.

Taxonomic class: Clayey-skeletal, smectitic, mesic Lithic Argixerolls

Typical pedon: Pioche extremely stony loam, in an area of map unit 1300, woodland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 30 percent pebbles, 20 percent cobbles, and 25 percent stones.

A—0 to 2 inches; brown (10YR 4/3) extremely stony loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine interstitial and tubular pores; 30 percent pebbles, 15 percent cobbles, and 20 percent stones; neutral (pH 7.2); clear smooth boundary.

Bt1—2 to 7 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure; slight hard, friable; moderately sticky and moderately plastic; few fine and common medium roots; common very fine and fine interstitial and tubular pores; few faint clay films on faces of peds; 10 percent pebbles, 30 percent cobbles, and 5 percent stones; slightly alkaline (pH 7.6); gradual wavy boundary.

Bt2—7 to 13 inches; brown (10YR 5/3) very cobbly clay, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure parting to strong fine subangular blocky; moderately hard, firm, very sticky and moderately plastic; few fine, medium, and very coarse roots; few very fine and fine interstitial pores; common faint clay films on faces of peds; 15 percent pebbles, 30 percent cobbles, and 5 percent stones; neutral (pH 7.1); abrupt irregular boundary.

R—13 inches; hard, fractured welded tuff.

Type location: Lincoln County, Nevada; approximately 0.5 mile southwest of Granite Spring and 0.5 mile north of Shingle Pass road in the Egan Mountain Range; USGS Shingle Pass 7.5 minute topographic quadrangle; 38 degrees, 33 minutes, 39 seconds north latitude and 114 degrees, 55 minutes, 07 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist winter and spring, dry summer and fall. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Depth to bedrock: 8 to 15 inches.

Thickness of mollic epipedon: 7 to 10 inches when the upper 7 inches of the soil is mixed. Bt2 horizons with colors that meet the requirements for mollic do not have sufficient organic carbon to be included in the epipedon except when mixed in the upper 7 inches.

Reaction: Neutral or slightly alkaline.

Particle size control section:

Clay content—35 to 50 percent.

Rock fragments—35 to 55 percent, dominantly cobbles; lithology of the fragments is mostly andesite, rhyolite, welded tuff or similar volcanic rocks.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt horizons:

Hue—10YR, 7.5YR, 5YR.

Value—4 or 5 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Structure—Weak or moderate prismatic; moderate or strong, fine or medium angular blocky; moderate or strong, fine to coarse subangular blocky.

Consistence—Slightly hard or hard, dry, friable or firm, moist, moderately sticky or very sticky and moderately plastic or very plastic, wet.

Clay films—Few to many.

Ponyspring series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low and medium.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 0 to 15 percent.

Elevation: 5,400 to 7,500 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, and mountain big sagebrush.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Argixerolls

Typical pedon: Ponyspring gravelly ashy loamy coarse sand, in an area of map unit 1232, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 40 percent pebbles. Lithology of the fragments is welded tuff.

A1—0 to 2 inches; brown (10YR 5/3) gravelly ashy loamy coarse sand, dark brown (10YR 3/3) moist; weak medium granular structure; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; few very fine and fine irregular and tubular pores; 25 percent pebbles and 5 percent cobbles; neutral (pH 7.0); clear smooth boundary.

A2—2 to 6 inches; dark grayish brown (10YR 4/2) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine, common fine and few medium roots; few very fine and fine irregular and tubular pores; 15 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Btk1—6 to 12 inches; brown (10YR 5/3) cobbly ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, common fine and medium roots; common fine and medium irregular and tubular pores; common distinct clay films on faces of peds; 15 percent pebbles and 15 percent cobbles; few (2 percent) distinct secondary calcium carbonate concretions on bottom of rock fragments; neutral (pH 7.0); clear smooth boundary.

Btk2—12 to 20 inches; yellowish brown (10YR 5/4) gravelly ashy sandy clay loam, dark yellowish brown (10YR 3/4) moist; strong coarse subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; few very fine, common fine and medium roots; common fine and medium irregular and tubular pores; many distinct clay films on faces of peds and lining pores; 15 percent pebbles; common (5 percent) distinct secondary calcium carbonate concretions around rock fragments; neutral (pH 7.2); clear smooth boundary.

Btk3—20 to 30 inches; yellowish brown (10YR 5/4) gravelly ashy sandy loam, dark yellowish brown (10YR 3/4) moist; strong coarse subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine, common fine and few medium roots; common very fine and fine irregular and tubular pores; common faint clay films on faces of peds; 20 percent pebbles; common (5 percent) distinct secondary calcium carbonate concretions around rock fragments; slightly alkaline (pH 7.5); clear smooth boundary.

Btqk1—30 to 46 inches; yellowish brown (10YR 5/4) ashy clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse subangular blocky structure parting to moderate medium subangular blocky; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine irregular pores; common distinct clay films on faces of peds and coating sand grains; 10 percent pebbles and 1 percent cobbles; common (10 percent) distinct secondary calcium carbonate and secondary silica concretions around rock fragments and common (10 percent) secondary calcium carbonate masses and fine threads; slightly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Btqk2—46 to 60 inches; light yellowish brown (10YR 6/4) gravelly ashy coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine irregular pores; common distinct clay films on faces of peds and bridging sand grains; 15 percent pebbles and 2 percent cobbles; common (10 percent) distinct secondary calcium carbonate and secondary silica concretions around rock fragments and secondary calcium carbonate disseminated throughout; strongly effervescent; moderately alkaline (pH 8.1).

Type location: Lincoln County, Nevada; approximately 3 miles south of Pony Springs, 0.5 mile west of State Highway 93; about 1,200 feet north and 800 feet east of the southwest corner section 20, T.5 N., R.66 E.; USGS Pony Springs 7.5 minute topographic quadrangle; 38 degrees, 16 minutes, 29 seconds north latitude and 114 degrees, 36 minutes, 8 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Thickness of the mollic epipedon: 10 to 14 inches and may include the upper part of the argillic horizon.

Depth to argillic horizon: 3 to 7 inches.

Depth to identifiable secondary calcium carbonate: 6 to 14 inches.

Volcanic glass content: 40 to 60 percent in the 0.2 to 2.0 millimeter fraction.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent, mainly pebbles.

A horizons:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Structure—Weak or moderate granular or subangular blocky.

Btk horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly ashy sandy loam, gravelly ashy clay loam, gravelly ashy sandy clay loam, or cobbly ashy sandy clay loam.

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent.

Structure—Moderate to strong, medium to coarse subangular blocky.

Secondary calcium carbonate—Faint to distinct concretions on bottom or around rock fragments.

Reaction—Neutral to slightly alkaline.

Btqk horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly ashy coarse sandy loam, ashy sandy clay loam, and ashy clay loam.

Clay content—18 to 35 percent.

Rock fragments—10 to 35 percent.

Structure—Massive or medium to coarse subangular blocky.

Reaction—Neutral to moderately alkaline.

Effervescence—Slightly effervescent to strongly effervescent.

Calcium carbonate equivalent—1 to 5 percent in the material less than 2 mm.

Pookaloo series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium to very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from dolomite, limestone and siltstone.

Slope range: 15 to 50 percent.

Elevation: 5,800 to 8,800 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 115 days.

Native plants: Singleleaf pinyon and Utah juniper woodland. With and understory of bluebunch wheatgrass, Indian ricegrass, bluegrass, bottlebrush squirreltail, and black sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Haplocalcids

Typical pedon: Pookaloo very gravelly loam, in an area of map unit 1190, woodland. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with approximately 60 percent pebbles and 5 percent cobbles.

A—0 to 3 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine vesicular pores; 50 percent pebbles and 5 percent cobbles, strongly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Bk1—3 to 6 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; common fine and few medium tubular pores; common (10 percent) secondary calcium carbonate concretions on the bottom of rock fragments; 35 percent pebbles and 5 percent cobbles; strongly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk2—6 to 14 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and few medium roots; common fine and few medium tubular pores; common (15 percent) secondary calcium carbonate concretions on the bottom of rock fragments; 30 percent pebbles and 10 percent cobbles; violently effervescent; slightly alkaline (pH 7.8); very abrupt boundary.

R—14 inches; fractured limestone.

Type location: Lincoln County, Nevada; north of Shingle Pass and east of Highway 318; about 1,290 feet north and 1,310 feet east of the southwest corner of section 20, T.8 N., R.63 E.; USGS Shingle Pass 7.5 minute topographic quadrangle; 38 degrees, 32 minutes, 1 second west longitude and 114 degrees, 55 minutes, 49 seconds north latitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry summer and fall. Aridic bordering on Xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 14 to 20 inches.

Depth to calcic horizon: 2 to 6 inches.

Calcium carbonate equivalent: 40 to 70 percent of the less than 20 mm material.

Effervescence: Strongly effervescent or violently effervescent.

Reaction: Slightly alkaline or moderately alkaline.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—35 to 50 percent, mainly pebbles.

A horizon:

Value—5 through 7 dry, 3 through 6 moist.

Chroma—2 through 6, dry or moist.

Bk horizons:

Value—5 through 7 dry, 3 through 6 moist.

Chroma—3 through 6, moist or dry.

Structure—Very fine to medium subangular blocky or massive.

Texture—Very gravelly silt loam or very gravelly loam.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Secondary calcium carbonates—5 to 20 percent by volume 1 to 5 millimeters thick secondary calcium carbonate pendants on bottom of rock fragments.

Calcium carbonate equivalent—30 to 50 percent of the material less than 2 mm.

Qwynn series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low or medium.

Landform: Fan remnants and inset fans.

Parent material: Alluvium derived from welded tuff with a component of volcanic ash and minor amounts of limestone.

Slope range: 0 to 8 percent.

Elevation: 4,650 to 7,000 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 50 to 53 degrees F.

Frost-free period: 110 to 150 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids

Typical pedon: Qwynn gravelly coarse sandy loam in an area of map unit 3409, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with approximately 25 percent pebbles. The lithology of the rock fragments is welded tuff.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly coarse sandy loam, dark brown (10YR 3/3) moist; moderate thick platy structure parting to weak fine and medium subangular blocky; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; common very fine and fine interstitial and tubular pores; 20 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

Bk1—3 to 12 inches; pale brown (10YR 6/3) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak thick platy structure parting to weak moderate and coarse prismatic; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine roots; common very fine and fine interstitial and tubular pores; common (10 percent) secondary calcium carbonate concretions around rock fragments and few (2 percent) very fine masses and threads on faces of peds; 20 percent pebbles; slightly alkaline (pH 7.5); clear smooth boundary.

Bk2—12 to 28 inches; pale brown (10YR 6/3) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak medium and coarse prismatic structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine roots; common very fine and fine interstitial pores; common (5 percent) secondary calcium carbonate concretions around rock fragments and few (2 percent) fine masses throughout matrix and fine threads on faces of peds; 15 percent pebbles; moderately alkaline (pH 7.9); clear smooth boundary.

2Btkq1—28 to 39 inches; light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse prismatic structure; hard, friable, moderately sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; common faint clay films bridging sand grains; common (5 percent) secondary calcium carbonate concretions around rock fragments and common (15 percent) secondary calcium carbonate masses throughout the matrix; many (20 percent) moderately cemented coarse durinodes; 25 percent pebbles; strongly alkaline (pH 8.5); gradual smooth boundary.

2Btkq2—39 to 52 inches; yellowish brown (10YR 5/4) very gravelly coarse sandy loam, dark yellowish brown (10YR 3/4) moist; weak coarse prismatic structure; hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; few faint clay films bridging sand grains; common (5 percent) secondary calcium carbonate concretions around rock fragments; common (15 percent) moderately cemented durinodes and common (10 percent) hard brittle moderately cemented discontinuous lenses of secondary silica cementation; 35 percent pebbles; moderately alkaline (pH 8.0); gradual smooth boundary.

2Bqk—52 to 70 inches; yellowish brown (10YR 5/4) very gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine interstitial pores; common (3 percent) secondary calcium carbonate concretions around rock fragments; common (10 percent) hard brittle moderately cemented discontinuous lenses of silica cementation; 40 percent pebbles; very slightly effervescent; moderately alkaline (pH 7.9).

Type location: Lincoln County, Nevada; about 20 feet south of the dirt road, 10 miles southeast of Water Gap, Garden Valley; approximately 1,000 feet west and 2,370 feet north of the southeast corner of section 7, T.1 N., R.58 E.; USGS Murphy Gap NW 7.5 minute topographic quadrangle; 37 degrees, 57 minutes, 52 seconds north latitude and 115 degrees, 29 minutes, 45 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer and fall except intermittently moist for 10 to 20 days between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 52 to 55 degrees F.

Depth to top of argillic horizon: 15 to 30 inches.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—18 to 27 percent

Rock fragments—15 to 35 percent. Lithology of the rock fragments is welded tuff.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—0 to 5 percent, in the material less than 2 mm.

Reaction—Neutral or slightly alkaline.

Volcanic glass content—10 to 20 percent in the 0.02 mm to 2.0 mm fraction.

Bk horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 through 5, dry or moist.

Texture—Sandy loam and coarse sandy loam.

Clay content—8 to 18 percent.

Rock fragments—5 to 25 percent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent—2 to 10 percent, in the material less than 2 mm.

Secondary calcium carbonates—Concretions around rock fragments and as fine masses, or fine threads throughout the matrix or on faces of peds.

Volcanic glass content—5 to 20 percent in the 0.02 mm to 2.0 mm fraction.

2Btkq horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 through 5, dry or moist.

Texture—Sandy clay loam, coarse sandy loam, and loam.

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—2 to 10 percent, in the material less than 2 mm.

Secondary calcium carbonates—Concretions around rock fragments and as fine masses, or fine threads throughout the matrix or on faces of peds.

Secondary silica—Medium through very coarse durinodes and hard brittle moderately cemented discontinuous lenses of silica cementation.

Volcanic glass content—1 to 10 percent in the 0.02 mm to 2.0 mm fraction.

2Bqk horizon:

Hue—10YR or 7.5YR.

Value—5 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Coarse sandy loam, sandy loam, and loamy coarse sand.

Clay content—8 to 18 percent.

Rock fragments—35 to 50 percent, mainly as gravel.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—2 to 10 percent, in the material less than 2 mm.

Secondary calcium carbonates—Concretions around rock fragments and masses throughout the matrix or on faces of peds.

Secondary silica—Hard brittle moderately cemented discontinuous lenses of silica cementation.

Volcanic glass content—1 to 10 percent in the 0.02 mm to 2.0 mm fraction.

Radol series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite with minor components of shale and sandstone.

Slope range: 15 to 75 percent.

Elevation: 5,850 to 8,800 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Bluebunch wheatgrass, Indian ricegrass, and black sagebrush. Other areas may have Stansbury's cliffrose and squawapple.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Calcixerolls

Typical pedon: Radol very gravelly loam in an area of map unit 4011, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 30 percent pebbles, 15 percent cobbles, and 2 percent stones. Lithology of the fragments is limestone.

A—0 to 2 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate thick platy structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, common fine and medium, and few coarse roots; common very fine tubular pores; 40 percent pebbles, 5 percent cobbles and 1 percent stones; common (10 percent) calcium carbonate concretions as disoriented coats and pendants on rock fragments; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—2 to 7 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine, common medium, and few coarse roots; common fine very tubular pores; 30 percent pebbles, 10 percent cobbles and 1 percent stones; many (30 percent) secondary calcium carbonate concretions around rock fragments and pendants on the bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk2—7 to 15 inches; brown (10YR 5/3) extremely cobbly loam, dark brown (10YR 3/3) moist; massive; soft, friable, slightly sticky and slightly plastic; common very fine, fine, and medium, and few coarse roots; common very fine tubular pores; 30 percent pebbles, 50 percent cobbles, and 1 percent stones; many (30 percent) secondary calcium carbonate concretions around rock fragments and pendants on the bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.3); very abrupt smooth boundary.

R—15 inches; hard limestone with many (30 percent) hard secondary calcium carbonate concretions around rock fragments and pendants on bottom of rock fragments.

Type location: Lincoln County, Nevada; 100 feet north of jeep trail on Grassy Pass; USGS Dutch John Mtn. 7.5 minute topographic quadrangle; 38 degrees, 23 minutes, 48 seconds north latitude and 114 degrees, 41 minutes, 55 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry summer and fall except for 10 to 20 days cumulative between July to October due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 14 to 20 inches.

Mollic epipedon thickness: 10 to 16 inches.

Depth to calcic horizon: 2 to 10 inches.

Reaction: Moderately alkaline or strongly alkaline.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—35 to 85 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—5 to 20 percent in the material less than 2 mm.

Effervescence—Slightly effervescent to violently effervescent.

Bk horizons:

Value—4 or 5 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Clay content—18 to 27 percent.

Rock fragments—35 to 85 percent.

Calcium carbonate equivalent—20 to 40 percent in the material less than 2 mm, and 40 to 60 percent in the less than 20 mm fraction.

Effervescence—Strongly effervescent to violently effervescent.

Ragnel series

Depth class: Very deep.

Drainage class: Somewhat excessively drained.

Permeability: Moderate to rapid.

Runoff: Very low and low.

Landform: Barrier beaches.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 0 to 8 percent.

Elevation: 5,900 to 6,600 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Sandy-skeletal, mixed, mesic Xeric Haplocambids

Typical pedon: Ragnel very gravelly loamy sand, in an area of map unit 2050, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 45 percent pebbles.

A—0 to 3 inches; brown (10YR 5/3) very gravelly loamy sand, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 45 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bw—3 to 11 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine tubular pores; 40 percent pebbles; slightly alkaline (pH 7.6); gradual wavy boundary.

2Bk—11 to 25 inches; light gray (10YR 7/1) very gravelly sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 55 percent pebbles; common distinct secondary calcium carbonate concretions on the bottom of rock fragments; strongly effervescent; moderately alkaline (pH 8.4); gradual wavy boundary.

2C—25 to 60 inches; light gray (10YR 7/1) very gravelly sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 55 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; approximately 15 miles northwest of Atlanta, 4,900 feet north and 1,500 feet west of the southeast corner of section 33, T.9 N., R.66 E.; USGS Gouge Eye Well 7.5 minute topographic quadrangle; 38 degrees, 36 minutes, 10 seconds north latitude and 114 degrees, 34 minutes, 10 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to carbonates: 11 to 23 inches.

Depth to discontinuity: 11 to 23 inches.

Particle size control section:

Clay content—Averages less than 10 percent.

Sand content—Averages more than 80 percent.

Rock fragments—35 to 60 percent, mainly pebbles.

A horizon:

Value—5 or 6 dry, 3 through 5 moist.
 Chroma—2 or 3, dry or moist.
 Reaction—Neutral or slightly alkaline.

Bw horizon:

Value—5 or 6 dry, 4 or 5 moist.
 Chroma—2 or 3, dry or moist.
 Texture of the fine earth—Sandy loam or loam.
 Structure—Fine to coarse subangular blocky.
 Consistence—Soft or slightly hard, dry.
 Clay content—8 to 18 percent.
 Reaction—Neutral through strongly alkaline.
 Other features—Some pedons have few secondary calcium carbonate masses on the bottom of rock fragments.

2Bk horizon:

Value—5 through 8 dry, 4 through 6 moist.
 Chroma—1 through 4, dry or moist. (lithochromic)
 Structure—Platy or single grain.
 Consistence—Loose or slightly hard dry, loose or friable moist.
 Clay content—0 to 3 percent.
 Reaction—Moderately alkaline or strongly alkaline.
 Carbonates—Strongly effervescent or violently effervescent. Some pedons may have rock fragments that are weakly to very strongly cemented by secondary calcium carbonate pendants, soil material is not cemented. 1 to 5 percent calcium carbonate equivalent.

2C horizon:

Value—6 through 8 dry, 4 through 6 moist.
 Chroma—1 through 4, dry or moist. (lithochromic)
 Clay content—0 to 3 percent.
 Reaction—Moderately alkaline or strongly alkaline.
 Carbonates—Strongly effervescent or violently effervescent. 1 to 5 percent calcium carbonate.
 Other features—Some pedons have secondary calcium carbonate pendants on bottom of rock fragments and common very coarse (1 to 2 inches thick) discontinuous gravel lenses that are strongly cemented.

Ravendog series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Low.

Landform: Inset fans.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 2 to 8 percent.

Elevation: 5,950 to 7,250 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 50 to 55 degrees F.

Frost-free period: 110 to 130 days.

Native plants: Basin wildrye, thickspike wheatgrass, needleandthread, and basin big sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Torrifuventic Haploxerolls

Typical pedon: Ravendog loam, in an area of map unit 4002, rangeland. (Colors are for dry soil unless otherwise noted.)
The soil surface is covered with approximately 10 percent pebbles. Lithology of the rock fragments is limestone and some quartzite.

A—0 to 5 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate thick platy structure parting to moderate medium platy; soft, friable, moderately sticky and slightly plastic; common very fine and few fine roots; common very fine and few fine interstitial and tubular pores; 5 percent pebbles; slightly alkaline (pH 7.6); strongly effervescent; abrupt smooth boundary.

Bw—5 to 16 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure parting to strong medium subangular blocky; slightly hard, friable, moderately sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and fine interstitial and tubular pores; 10 percent pebbles; strongly alkaline (pH 8.5); strongly effervescent; clear smooth boundary.

Bqk1—16 to 39 inches; yellowish brown (10YR 5/4) stratified very fine sandy loam to gravelly coarse sandy loam, dark yellowish brown (10YR 3/4) moist; strong medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and medium, and common fine roots; common very fine and fine interstitial and tubular pores; 10 percent pebbles; 5 percent durinodes; common (5 percent) secondary calcium carbonate concretions on bottom of rock fragments; strongly effervescent; strongly alkaline (pH 8.8); gradual smooth boundary.

Bqk2—39 to 60 inches; pale brown (10YR 6/3) stratified silt loam to very cobbly coarse sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine interstitial and tubular pores; 20 percent pebbles and 20 percent cobbles; 10 percent durinodes; common (2 percent) secondary calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 8.7).

Type location: Lincoln County, Nevada; 30 feet off of Muleshoe road, southwest of Dutch John Mountain; 2,500 feet south and 2,100 feet east of the northwest corner of section 31, T.7 N., R.65 E.; USGS Dutch John Mountain 7.5 minute topographic quadrangle; 38 degrees, 25 minutes, 22 seconds north latitude and 114 degrees, 43 minutes, 27 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall, except for 10 to 20 days cumulative between July to October due to convection storms. Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 53 to 58 degrees F.

Mollic epipedon thickness: 10 to 16 inches.

Depth to identifiable secondary carbonates: 16 to 40 inches.

Other features: There is an irregular decrease in organic carbon content between 10 and 50 inches. Some pedons have C horizons below the Bqk horizon.

Particle size control section:

Clay content—Averages 8 to 18 percent.

Rock fragments—Averages 5 to 35 percent, mainly pebbles. Lithology of fragments is mixed rocks.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Clay content—8 to 15 percent.

Reaction—Slightly alkaline to moderately alkaline.

Organic matter content—1 to 3 percent.

Effervescence—Noneffervescent to strongly effervescent.

Calcium carbonate equivalent—0 to 3 percent.

Bw horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam, very fine sandy loam, or loam, or silt loam.

Clay content—8 to 18 percent.

Rock fragments—5 to 35 percent.

Consistence—Soft or slightly hard, dry; very friable or friable, moist, slightly sticky or moderately plastic and slightly plastic or moderately plastic, wet.

Reaction—Slightly alkaline to strongly alkaline.

Effervescence—Slightly effervescent or strongly effervescent.

Calcium carbonate equivalent—1 to 3 percent.

Bqk horizons:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Stratified fine sandy loam, sandy loam, or very fine sandy loam but includes strata of loamy coarse sand to silt loam in some pedons.

Clay content—8 to 18 percent.

Rock fragments—Averages 5 to 35 percent, mainly pebbles; individual strata range from 0 to 65 percent.

Structure—Subangular blocky or massive.

Consistence—Nonsticky through moderately sticky and nonplastic through moderately plastic.

Durinodes—5 to 15 percent weakly to strongly cemented durinodes.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent through violently effervescent.

Identifiable secondary carbonates—Occur as few to common, fine or medium coats on faces of peds, rock fragments, or durinodes.

Calcium carbonate equivalent—1 to 5 percent.

Richinde series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium to very high.

Landform: Hills.

Parent material: Residuum and colluvium derived from welded tuff with a component of volcanic ash.

Slope range: 2 to 50 percent.

Elevation: 4,450 to 7,950 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, desert needlegrass, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Richinde very gravelly sandy loam in an area of map unit 1885, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 30 percent pebbles, 10 percent cobbles and 5 percent stones. The lithology is welded tuff.

A—0 to 5 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine, and few medium vesicular pores; 35 percent pebbles and 5 percent cobbles; neutral (pH 7.1); clear smooth boundary.

Bt1—5 to 13 inches; light yellowish brown (10YR 6/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse subangular blocky structure parting to moderate medium angular blocky; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, and few medium roots; few fine and medium

tubular pores; common distinct clay films on faces of peds; 30 percent pebbles and 10 percent cobbles; neutral (pH 7.1); clear smooth boundary.

Bt2—13 to 18 inches; light yellowish brown (10YR 6/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/6) moist; strong coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; few very fine and fine tubular pores; many distinct clay films on faces of peds; 30 percent pebbles, 15 percent cobbles and 2 percent stones; neutral (pH 7.3); abrupt smooth boundary.

R—18 inches; hard, fractured welded tuff; few fine and medium roots in fractures.

Type location: Lincoln County, Nevada; in the North Pahroc Range about 1.5 miles northwest of Wheatgrass Spring and 20 feet south of a jeep trail. About 2,600 feet south and 1,300 feet east of northwest corner of section 16, T.2 S., R.63 E.; USGS Wheatgrass Spring 7.5 minute topographic quadrangle; 37 degrees, 46 minutes, 43 seconds north latitude and 114 degrees, 55 minutes, 51 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry in summer and fall; intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 14 to 20 inches to a lithic contact.

Calcium carbonate equivalent: 0 to 5 percent in the material less than 2 mm.

Volcanic glass: 15 to 30 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—27 to 35 percent.

Rock fragments—35 to 50 percent; mainly pebbles. Lithology of fragments is glassy welded tuff.

A horizon:

Value—5 or 6 dry, and 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Effervescence—Noneffervescent to slightly effervescent.

Reaction—Neutral or slightly alkaline.

Bt horizons:

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4 dry, 3 through 6 moist.

Structure—Subangular blocky or angular blocky.

Rock fragments—35 to 50 percent.

Consistence—Soft to hard dry, very friable to firm moist.

Effervescence—Noneffervescent to strongly effervescent.

Reaction—Neutral to moderately alkaline.

Rouette series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 2 to 8 percent.

Elevation: 5,900 to 6,100 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 52 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Xereptic Haplodurids

Typical pedon: Rouette loam in an area of White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.)

- A—0 to 6 inches; very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine and fine vesicular pores; 5 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.
- Bw—6 to 12 inches; pale brown (10YR 6/3) gravelly loam, yellowish brown (10YR 5/4) moist, weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, medium, and coarse roots; common very fine and fine tubular pores; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bqk—12 to 17 inches; very pale brown (10YR 7/3) gravelly loam, light yellowish brown (10YR 6/4) moist; weak coarse subangular blocky structure; slightly hard; friable; slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine tubular pores; 15 percent pebbles; many distinct secondary calcium carbonate and silica concretions on the bottoms of rock fragments; 15 to 20 percent 0.5 to 1 inch diameter hard brittle durinodes; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.
- Bqkm—17 to 23 inches; very pale brown (10YR 8/2) cemented material, very pale brown (10YR 7/3) moist; massive; extremely hard, slightly rigid and brittle; duripan strongly cemented by secondary silica; few very fine and fine roots matted at the upper boundary and in cracks; few very fine interstitial and tubular pores; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.
- 2Bkq1—23 to 29 inches; pale brown (10YR 6/3) extremely gravelly sand, light yellowish brown (10YR 6/4) moist; massive, slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; many fine interstitial pores; 75 percent pebbles; many prominent secondary calcium carbonate and silica pendants on the bottoms of rock fragments; 20 percent brittle discontinuous lenses; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
- 2Bkq2—29 to 39 inches; very pale brown (10YR 7/3) very gravelly sand, light yellowish brown (10YR 6/4) moist; massive, hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine tubular pores; 50 percent pebbles; 40 percent very hard brittle lenses and broken very firm pan fragments cemented by secondary silica; many prominent secondary calcium carbonate and silica concretions on the bottom of rock fragments and common discontinuous concretions around rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- 2Bkq3—39 to 60 inches; pale brown (10YR 6/3) extremely gravelly sand, brown (10YR 5/3) moist; massive, slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 70 percent pebbles; many distinct secondary calcium carbonate and silica pendants on the bottom of rock fragments; 20 percent extremely hard, slightly rigid strongly cemented lenses; violently effervescent; strongly alkaline (pH 8.6).

Type location: White Pine County, Nevada; between Spring Valley and the Schell Creek Range; about 200 feet south and 1,750 feet east of the northwest corner of section 26, T.20 N., R.66 E.; USGS Kalamazoo Creek 7.5 minute topographic quadrangle; 39 degrees, 34 minutes, 38 seconds north latitude and 114 degrees, 31 minutes, 02 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Intermittently moist during winter and spring, usually dry summer through fall except for 10 to 20 day cumulative between mid-July and October due to convection storms. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to base of cambic horizon: 10 to 15 inches.

Depth to strongly cemented duripan: 10 to 20 inches.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—5 to 25 percent.

A horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 or 3, dry or moist.

Bw horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam or gravelly loam.

Consistence—Soft or slightly hard, very friable to friable, nonsticky to slightly sticky and nonplastic to slightly plastic.

Bqk horizons:

Cementation—10 to 25 percent brittle durinodes in a friable or brittle matrix.

Texture—Loam or gravelly loam.

Consistence—Slightly hard or hard dry; very friable or friable moist.

Bqkm horizon:

Consistence—Very hard or extremely hard.

Rupture resistance—Moderately cemented or strongly cemented.

2Bkq horizons:

Value—6 or 7 dry; 5 or 6 moist.

Clay content—0 to 5 percent.

Rock fragments—45 to 75 percent.

Cementation—5 to 45 percent very hard or extremely hard, very firm or slightly rigid brittle lenses and broken pan fragments.

Saltydog series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very low.

Landform: Alluvial flats.

Parent material: Alluvium and lacustrine deposits derived from limestone and welded tuff.

Slope range: 0 to 2 percent.

Elevation: 4,550 to 4,750 feet.

Mean annual precipitation: 5 to 7 inches.

Mean annual air temperature: 53 to 57 degrees F.

Frost-free period: 120 to 160 days.

Native plants: Indian ricegrass, shadscale, and greenmolly kochia.

Taxonomic class: Fine-loamy, mixed, active, mesic Sodic Haplocalcids

Typical pedon: Saltydog loam, in an area of 3192, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 10 percent cyanobacteria and 40 percent lichens which are evident when wet.

A—0 to 4 inches; light gray (10YR 7/2) loam, yellowish brown (10YR 5/4) moist; strong very thick platy structure parting to moderate medium platy; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine and fine, common medium and few coarse vesicular pores; calcium carbonate equivalent is 18 percent; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary.

- Bw1—4 to 9 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and common fine roots; common very fine and fine, and few medium interstitial and tubular pores; calcium carbonate equivalent is 20 percent; violently effervescent; strongly alkaline (pH 8.8); clear smooth boundary.
- Bw2—9 to 17 inches; pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 4/6) moist; weak medium prismatic structure parting to strong medium subangular blocky; slightly hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine, and few medium interstitial and tubular pores; calcium carbonate equivalent is 16 percent; violently effervescent; very strongly alkaline (pH 9.2); gradual smooth boundary.
- Bk1—17 to 35 inches; light gray (10YR 7/2) clay loam, yellowish brown (10YR 5/4) moist; weak coarse prismatic structure parting to moderate coarse subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine, and few medium interstitial and tubular pores; calcium carbonate equivalent is 25 percent; violently effervescent; very strongly alkaline (pH 9.4); gradual smooth boundary.
- Bk2—35 to 46 inches; light gray (10YR 7/2) loam, yellowish brown (10YR 5/4) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine and fine, and few medium interstitial pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 22 percent; violently effervescent; very strongly alkaline (pH 9.1); abrupt smooth boundary.
- 2C—46 to 65 inches; light brownish gray (10YR 6/2) gravelly sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; calcium carbonate equivalent is 1 percent; 25 percent pebbles; very slightly effervescent; very strongly alkaline (pH 9.5).

Type location: Lincoln County, Nevada; about 2.5 miles southwest of the Ely Springs Ranch and about 50 feet south of jeep trail in Dry Lake Valley; about 200 feet north and 1,600 feet west of the southeast corner section 12, T.1 S., R.64 E.; USGS Deadman Spring SE 7.5 minute topographic quadrangle; 37 degrees, 52 minutes, 17 seconds north latitude and 114 degrees, 45 minutes, 22 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. There is a thin perched water table from about 42 to 50 inches for a brief period in the spring during wet years. Internal free water occurrence is very thin, deep and very transitory or transitory. Typic aridic soil moisture regime.

Soil temperature: 55 to 59 degrees F.

Depth to calcic horizon: 20 to 40 inches.

Thickness of the calcic horizon: 24 to 32 inches.

Particle size control section:

Clay content—10 to 18 percent.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 4 or 5 moist.

Calcium carbonate equivalent—15 to 20 percent.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

EC (mmhos/cm)—0 to 2.

Bw horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry, 4 through 6 moist.

Clay content—27 to 40 percent, non-carbonate clay is 20 to 30 percent.

Calcium carbonate equivalent—15 to 24 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Sodicity—SAR ranges from 10 to 30.

EC (mmhos/cm)—0 to 4.

Bk horizons:

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 or 3 dry, 3 or 4 moist.

Texture—Clay loam or loam.

Clay content—20 to 35 percent, non-carbonate clay is 15 to 25 percent.

Calcium carbonate equivalent—20 to 35 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Sodicity—SAR is more than 13.

EC (mmhos/cm)—0 to 4.

2C horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—1 or 2, dry or moist.

Texture—Sand or loamy sand.

Clay content—0 to 6 percent.

Rock fragments—2 to 35 percent.

Calcium carbonate equivalent—0 to 5 percent.

Effervescence—Very slightly effervescent or slightly effervescent.

Sodicity—SAR is more than 13.

EC (mmhos/cm)—0 to 4.

Schoolmarm series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium and high.

Landform: Hills, ridges, and mountains.

Parent material: Residuum and colluvium derived from welded tuff.

Slope range: 4 to 50 percent.

Elevation: 5,800 to 8,600 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, Thurber's needlegrass, low sagebrush, and antelope bitterbrush.

Taxonomic class: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Typical pedon: Schoolmarm gravelly ashy coarse sandy loam in an area of map unit 3892, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 30 percent pebbles, 15 percent cobbles, and 5 percent stones. Lithology of the fragments is welded tuff.

A—0 to 3 inches; brown (10YR 5/3) gravelly ashy coarse sandy loam, dark brown (10YR 3/3) moist; strong medium granular structure; soft, very friable, slightly sticky and nonplastic; many very fine and common fine roots; common very fine and fine, and few medium interstitial and tubular pores; 20 percent pebbles and 5 percent cobbles; neutral (pH 6.8); clear smooth boundary.

Bt1—3 to 8 inches; grayish brown (10YR 5/2) very cobbly ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium and coarse roots; common very fine and few fine and medium irregular and tubular pores; common distinct clay films on faces of peds; 25 percent pebbles, 10 percent cobbles and 5 percent stones; neutral (pH 6.7); clear smooth boundary.

Bt2—8 to 11 inches; brown (10YR 5/3) very gravelly ashy clay loam, dark brown (10YR 3/3) moist; strong coarse subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; few very fine, fine and medium

roots; common very fine and fine tubular pores; many distinct clay films on faces of pedes; 30 percent pebbles and 10 percent stones; neutral (pH 7.0); abrupt wavy boundary.
R—11 inches; hard, slightly fractured, welded tuff.

Type location: Lincoln County, Nevada; on the west side of Mount Wilson, approximately 1 mile east of the Wilson Creek Ranch, and 150 feet south of the power line road; about 700 feet south and 600 feet east of the northwest corner section 36, T.5 N., R.67 E.; USGS Schoolmarm Basin 7.5 minute topographic quadrangle; 38 degrees, 15 minutes, 30 seconds north latitude and 114 degrees, 25 minutes, 19 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 45 to 47 degrees F.

Thickness of the mollic epipedon: 10 to 14 inches and includes all or part of the argillic horizon.

Depth to argillic horizon: 3 to 7 inches.

Thickness of the argillic horizon: 7 to 16 inches.

Depth to bedrock: 10 to 20 inches.

Volcanic glass content: 40 to 60 percent in the 0.2 to 2.0 millimeter fraction.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragment content—35 to 50 percent, mainly pebbles. Lithology of fragments is welded tuff.

A horizon:

Value—4 or 5 dry, and 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Structure—Granular or platy.

Organic matter content—1 to 2 percent

Bt horizons:

Value—3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very cobbly ashy sandy clay loam, and very gravelly ashy clay loam. Thin subhorizons of ashy loam in some pedons

Clay content—27 to 35 percent.

Rock fragment content—35 to 50 percent, some subhorizons contain up to 60 percent pebbles and cobbles.

Structure—Moderate or strong, medium to coarse subangular blocky.

Consistence—Soft or slightly hard, dry, very friable or friable moist, slightly plastic or moderately plastic, wet,

Clay films—Common to many.

Segura series

Depth class: Very shallow or shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from quartzite.

Slope range: 15 to 50 percent.

Elevation: 7,650 to 8,550 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 43 to 46 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Thurber's needlegrass, bluebunch wheatgrass, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Loamy, mixed, superactive, frigid Lithic Argixerolls

Typical pedon: Segura very cobbly loam, in an area of Western White Pine County, Area, Nevada, rangeland (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; brown (10YR 5/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial pores; 15 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 7.2); clear smooth boundary.

Bt1—3 to 9 inches; brown (10YR 5/3) sandy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common fine and medium tubular pores; few faint clay films lining pores; 10 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt2—9 to 14 inches; yellowish brown (10YR 5/4) sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; common fine and medium tubular pores; few distinct clay films lining pores; 10 percent pebbles; slightly alkaline (pH 7.8); abrupt smooth boundary.

R—14 inches; fractured quartzite.

Type location: White Pine County, Nevada; about 4 miles southwest of Alligator Ridge, on Buck Mountain; about 1,350 feet west and 2,000 feet south of the projected northeast corner of sec. 32, T.22 N., R.57 E.; 39 degrees, 44 minutes, 5 seconds north latitude and 115 degrees, 34 minutes, 29 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and early fall. Aridic soil moisture regime bordering on xeric.

Soil temperature: 43 to 47 degrees F.

Mollic epipedon: 7 to 14 inches thick. Thin epipedons are mollic after mixing to 7 inches. Commonly includes part or all of Bt horizon.

Depth to bedrock: 7 to 14 inches.

Reaction: Neutral to moderately alkaline.

Particle size control section:

Clay content—18 to 30 percent.

Rock fragments—Averages 10 to 35 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam or sandy clay loam or clay loam.

Structure—Fine or medium angular blocky and subangular blocky.

Consistence—Soft or slightly hard dry, very friable or friable moist, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Clay content—20 to 35 percent.

Rock fragments—10 to 35 percent.

Other features—Lower Bt horizon ranges to value of 6 dry, chroma of 4.

Sevenmile series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Very low or low.

Landform: Drainageways and inset fans.

Parent material: Alluvium derived from welded tuff and minor components of limestone and quartzite.

Slope range: 0 to 8 percent.

Elevation: 4,850 to 7,450 feet.

Mean annual precipitation: 8 to 14 inches.

Mean annual air temperature: 47 to 55 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Basin wildrye, Indian ricegrass, Wyoming big sagebrush, and winterfat. Other areas my support thickspike wheatgrass, needleandthread, and basin big sagebrush.

Taxonomic class: Coarse-loamy, isotic, mesic Vitritorrandic Haploxerolls

Typical pedon: Sevenmile ashy sandy loam, in an area of map unit 1138, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 15 percent pebbles. Lithology of the rock fragments is welded tuff.

A1—0 to 4 inches; brown (10YR 4/3) ashy sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine and fine interstitial and tubular pores; 10 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

A2—4 to 11 inches; brown (10YR 5/3) ashy sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure parting to moderate medium granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine, common medium, and few coarse and very coarse roots; many very fine and fine interstitial and tubular pores; 10 percent pebbles; slightly alkaline (pH 7.7); clear smooth boundary.

Bw1—11 to 22 inches; yellowish brown (10YR 5/4) ashy loam, dark yellowish brown (10YR 3/4) moist; strong coarse subangular blocky structure parting to strong medium subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, and few medium and coarse roots; common very fine and fine interstitial and tubular pores; slightly effervescent; 10 percent pebbles; moderately alkaline (pH 7.9); gradual smooth boundary.

Bw2—22 to 35 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; strong coarse subangular blocky structure parting to moderate fine and medium subangular blocky; moderately hard, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium and coarse roots; common very fine and fine interstitial and tubular pores; strongly effervescent; 10 percent pebbles; moderately alkaline (pH 8.2); gradual smooth boundary.

C1—35 to 45 inches; pale brown (10YR 6/3) stratified very fine sandy loam to gravelly coarse sandy loam, brown (10YR 4/3) moist; massive; moderately hard, very friable, slightly sticky and nonplastic; few very fine, fine and medium roots; few very fine and fine interstitial and tubular pores; strongly effervescent; 20 percent pebbles; moderately alkaline (pH 8.3); gradual smooth boundary.

C2—45 to 60 inches; light yellowish brown (10YR 6/4) stratified very fine sandy loam to gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; moderately hard, very friable, slightly sticky and nonplastic; few very fine, fine and medium roots; few very fine and fine interstitial pores; violently effervescent; 20 percent pebbles; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; 6 miles east and 60 feet south of the of Holt Farm Road (Atlanta Road); 2,100 feet west and 660 feet north of the southeast corner of section 28, T.6 N., R.67 E.; USGS Schoolmarm Basin 7.5 minute topographic quadrangle; 38 degrees, 20 minutes, 46 seconds north latitude and 114 degrees, 27 minutes, 33 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July to October due to convection storms. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 52 to 57 degrees F.

Mollic epipedon thickness: 10 to 16 inches.

Depth to base of cambic horizon: 24 to 35 inches.

Sodium fluoride pH: 8.5 to 10.0.

Particle size control section:

Clay content—Averages 8 to 18 percent.

Rock fragments—Averages 10 to 35 percent, mainly pebbles. Lithology of fragments are mixed rocks.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Neutral to moderately alkaline.

Organic matter content—1 to 3 percent.

Volcanic glass content—15 to 25 percent in coarse silt through fine sand fractions; Acid oxalate extractable aluminum plus one-half the acid oxalate extractable iron=0.1 to 0.3 percent.

Bw1 horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Ashy fine sandy loam, ashy very fine sandy loam, or ashy loam.

Rock fragments—5 to 15 percent.

Organic matter content—1 or 2 percent.

Consistence—Soft or slightly hard, dry; very friable or friable, moist, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Reaction—Neutral to moderately alkaline.

Vitrandic intergrade properties—Volcanic glass content, 15 to 25 percent in coarse silt through fine sand fractions; Acid oxalate extractable aluminum plus one-half the acid oxalate extractable iron, 0.1 to 0.3 percent.

Bw2 horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy loam, very fine sandy loam, loam or gravelly loam.

Rock fragments—5 to 35 percent

Consistence—Soft to moderately hard, dry; very friable or friable, moist.

Reaction—Neutral to moderately alkaline.

C horizons:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Stratified and dominated by fine sandy loam, sandy loam, or very fine sandy loam but includes strata of loamy coarse sand to silt loam in some pedons.

Rock fragments—Averages 10 to 35 percent, mainly pebbles; individual strata range from 0 to 65 percent.

Structure—Subangular blocky or massive.

Consistence—Soft to moderately hard, dry, nonsticky or slightly sticky and nonplastic or slightly plastic, wet.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent to violently effervescent.

Calcium carbonate equivalent—0 to 3 percent in the material less than 2 mm.

Silent series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff and limestone.

Slope range: 4 to 8 percent.

Elevation: 5,150 to 6,000 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 52 to 55 degrees F.

Frost-free period: 130 to 150 days.

Native plants: Indian ricegrass, shadscale, and bud sagebrush.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Typic Argidurids

Typical pedon: Silent gravelly sandy loam, in an area of Pahrnagat-Penoyer Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles.

A—0 to 4 inches; light gray (10YR 7/2) gravelly sandy loam, grayish brown (10YR 5/2) moist; weak thin and medium platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine and medium roots; many very fine and fine and few medium vesicular pores; 15 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.

Bt—4 to 8 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and few medium roots; many very fine and fine tubular pores; common faint clay films lining pores and on faces of peds; violently effervescent; strongly alkaline (pH 8.5); gradual smooth boundary.

Btk1—8 to 12 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; weak medium and coarse subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine and fine and few medium tubular pores; common faint clay films on faces of peds and lining pores; common fine and medium distinct white (10YR 8/2) secondary calcium carbonate segregations; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Btk2—12 to 17 inches; mottled white (10YR 8/1) and light gray (10YR 7/2) gravelly clay loam, pale brown (10YR 6/3) and very pale brown (10YR 7/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common fine tubular pores; few faint clay film on faces of peds and lining pores; few weakly cemented lenses of secondary calcium carbonate; 15 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bqkm—17 inches; white (10YR 8/1) indurated duripan, light brownish gray (10YR 6/2) moist; massive; very rigid; violently effervescent; strongly alkaline (pH 8.8).

Type location: Lincoln County, Nevada; approximately 1,500 feet north and 1,420 feet east of the southwest corner of section 31, T.3 S., R.56 E., Mount Diablo base line and meridian. USGS Tempiute Mountain North 7.5 minute topographic quadrangle; 37 degrees, 38 minutes, 24 seconds north latitude and 115 degrees, 43 minutes, 38 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, but are moist in winter and early spring and intermittently for 10 to 20 days cumulative due to convection storms during the period July through October. Typic aridic soil moisture regime.

Soil temperature: 53 to 59 degrees F.

Depth to duripan: 10 to 20 inches.

Reaction: Moderately alkaline to very strongly alkaline.

Carbonates: Calcareous throughout.

Calcium carbonate equivalent: 5 to 15 percent in the material less than 2 mm.

Particle size control section:

Clay content—Averages 25 to 35 percent.

Rock fragments—Average 5 to 35 percent.

A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Bt horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Clay loam or sandy clay loam having less than 35 percent clay content.

Structure—Weak fine or medium prismatic or weak or moderate fine or medium subangular blocky.

Consistence—Very friable or friable, slightly sticky or moderately sticky.

Btk horizons:

Hue—7.5YR or 10YR.

Value—5 through 8 dry, 4 through 7 moist.

Chroma—1 through 6, dry or moist.

Texture—Clay loam, gravelly clay loam, or gravelly sandy clay loam.

Structure—Subangular blocky or massive.

Consistence—Very friable or friable, slightly sticky or moderately sticky, slightly plastic or moderately plastic.

Other features—Contains considerable amounts of segregated secondary calcium carbonate and can be weakly cemented in spots.

Slaw series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Negligible to high.

Landform: Alluvial flats, basin floors, and drainageways.

Parent material: Alluvium over lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 4,650 to 6,000 feet.

Mean annual precipitation: 5 to 8 inches.

Mean annual air temperature: 52 to 55 degrees F.

Frost-free period: 120 to 140 days.

Native plants: Black greasewood and shadscale. Other areas may support alkali sacaton, Indian ricegrass, basin wildrye, greenmolly kochia and fourwing saltbush.

Taxonomic class: Fine-silty, mixed, superactive, calcareous, mesic Typic Torrfluvents

Typical pedon: Slaw silt loam, in an area of map unit of 1081, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; strong thick and very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine vesicular pores; slightly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—3 to 13 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; strong medium subangular blocky structure parting to moderate thin platy; hard, very friable, moderate sticky and moderately plastic; common very fine, fine, and

medium roots; common fine and medium tubular pores; strongly effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

C1—13 to 27 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure parting to moderate thin platy; slightly hard, very friable, very sticky and very plastic; common very fine and few fine and medium roots; common very fine and fine, and few medium tubular pores; strongly effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

C2—27 to 37 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate thick and thin platy structure; hard, friable, very sticky and very plastic; few faint yellowish brown (10YR 5/6) relict redoximorphic concentrations; few very fine, fine, and medium roots; few very fine, fine, and medium tubular pores; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

C3—37 to 43 inches; light brownish gray (10YR 6/2) silty clay loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; soft, very friable, very sticky and very plastic; many fine faint yellowish brown (10YR 5/4) relict redoximorphic concentrations; few very fine, fine, and medium roots; few very fine, fine, and medium tubular pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

C4—43 to 60 inches; light yellowish brown (10YR 6/4) loam, brown (10YR 4/3) moist; weak fine granular structure; hard, friable, moderately sticky and moderately plastic; few very fine, fine, and medium roots; few very fine, fine, and medium tubular pores; slightly effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; about 15 miles northeast of Atlanta; 43 feet south and 240 feet west of the northeast corner of section 22, T.9 N., R.70 E.; USGS Tweedy Wash 7.5 minute topographic quadrangle; 38 degrees, 38 minutes, 3 seconds north latitude and 114 degrees, 6 minutes, 10 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in some part of the moisture control section for short periods during winter and early spring months and intermittently moist above the moisture control section for 10 to 20 days cumulative between July and October due to convection storms; Typic aridic soil moisture regime.

Mean annual soil temperature: 53 to 57 degrees F.

Calcium carbonate equivalent: 1 to 4 percent.

Reaction: Strongly alkaline or very strongly alkaline.

Organic carbon content: Decreases irregularly with depth due to alluvial stratification.

Other features: Clay minerals are dominated by smectites.

Particle size control section:

Clay content—18 to 35 percent.

A horizons:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Slightly effervescent to violently effervescent.

C horizons:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified very fine sandy loam to silty clay, averaging silty clay loam or silt loam.

Structure—Subangular blocky, prismatic, platy or is massive. Subhorizons are granular in some pedons

Consistence—Soft to hard dry, very friable to friable moist, nonsticky to very sticky, nonplastic to very plastic.

Salinity (EC)—0 to 32 mmhos/cm.

Sodicity (SAR)—0 to 99.

Other features—Relict redox concentrations of iron or manganese are common in any subhorizon.

Slockey series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Rock pediments, hills, and mountains.

Parent material: Residuum and colluvium derived from welded tuff.

Slope range: 4 to 50 percent.

Elevation: 5,800 to 7,850 feet.

Mean annual precipitation: 12 to 14 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Ashy-skeletal, glassy, frigid Vitritorrandic Argixerolls

Typical pedon: Slockey very gravelly ashy sandy clay loam in an area of map unit 4022, rangeland. The soil surface is partially covered with approximately 35 percent pebbles and 10 percent cobbles. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; brown (10YR 5/3) very gravelly ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 40 percent pebbles; neutral (pH 7.3); abrupt smooth boundary.

Bt1—4 to 9 inches; brown (10YR 5/3) very gravelly ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine through coarse roots; common very fine tubular and interstitial pores; common faint clay films on faces of peds; 35 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—9 to 15 inches; yellowish brown (10YR 5/4) very gravelly ashy sandy clay loam, dark yellowish brown (10YR 3/4) moist; strong medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine and common medium and coarse roots; common very fine and fine tubular and interstitial pores; many faint clay films bridging sand grains and on faces of peds; 35 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); clear irregular boundary.

Bt3—15 to 21 inches; light yellowish brown (10YR 6/4) very gravelly ashy sandy clay loam, dark yellowish brown (10YR 4/4) moist; strong medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine and common medium and coarse roots; common very fine and fine tubular and interstitial pores; many faint clay films bridging sand grains and on faces of peds; 35 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.7); clear irregular boundary.

R—21 inches; hard welded tuff.

Type location: Lincoln County, Nevada; northeast part of the Fairview Range; about 1,200 feet south and 1,300 feet west of the northeast corner of section 3, T.4 N., R.65 E.; USGS Fairview Peak; 7.5 minute topographic quadrangle 38 degrees, 14 minutes, 26 seconds north latitude and 114 degrees, 40 minutes, 02 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry in summer and fall except for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 45 to 47 degrees F.

Mollic epipedon thickness: 7 to 14 inches, includes the upper portion of the argillic horizon.

Depth to hard bedrock: 20 to 40 inches.

Volcanic glass content: 35 to 60 percent in the 0.2 to 2.0 millimeter fraction.

Particle size control section:

Clay content—Averages 27 to 35 percent.

Rock fragments—35 to 60 percent, dominantly 2 to 5 mm diameter pebbles.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Very gravelly ashy loam or very gravelly ashy sandy clay loam.

Clay content—20 to 30 percent.

Rock fragments—35 to 60 percent, most of pebbles are 2 to 5 mm. in diameter.

Structure—Medium to coarse subangular blocky.

Consistence—Soft to hard, dry, very friable to firm, moist.

Bt2 & Bt3 horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Very gravelly ashy clay loam or very gravelly ashy sandy clay loam.

Clay content—27 to 35 percent.

Rock fragments—35 to 60 percent, most of pebbles are 2 to 5 mm. in diameter.

Structure—Medium to coarse subangular blocky.

Consistence—Soft to hard, dry, very friable to firm, moist.

Starflyer series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from welded tuff.

Slope range: 4 to 75 percent.

Elevation: 5,950 to 8,200 feet.

Mean annual precipitation: 10 to 14 inches.

Mean annual air temperature: 43 to 45 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, Indian ricegrass, and mountain big sagebrush.

Taxonomic class: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Typical pedon: Starflyer very cobbly ashy coarse sandy loam in an area of map unit 4030, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with about 20 percent pebbles and 45 percent cobbles. Lithology of the fragments is welded tuff.

A—0 to 3 inches; dark grayish brown (10YR 4/2) very cobbly ashy coarse sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine, and few medium roots; common fine interstitial pores; 25 percent pebbles and 20 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt1—3 to 5 inches; dark grayish brown (10YR 4/2) very cobbly ashy sandy clay loam, very dark brown (10YR 2/2) moist; moderate coarse subangular blocky structure parting to weak moderate subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; common very fine and fine, and few medium and coarse roots; common very fine tubular pores; few faint clay films bridging sand grains; 30 percent pebbles and 20 percent cobbles; neutral (pH 7.1); clear smooth boundary.

- Bt2—5 to 10 inches; grayish brown (10YR 5/2) very cobbly ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and fine, common medium, and few coarse roots; common fine tubular pores; common distinct clay films on faces of peds; 30 percent pebbles and 20 percent cobbles, neutral (pH 7.0); clear smooth boundary.
- Bt3—10 to 18 inches; grayish brown (10YR 5/2) very cobbly ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; strong very fine granular structure; slightly hard, friable, slightly sticky and moderately plastic; common very fine and fine, few medium and coarse roots; common fine tubular pores; common distinct clay films on faces of peds; 25 percent pebbles and 20 percent cobbles; neutral (pH 6.9); clear smooth boundary.
- R—18 inches; welded tuff, slightly weathered in the upper 4 inches.

Type location: Lincoln County, Nevada; Schell Creek Range; USGS Sidehill Spring 7.5 minute topographic quadrangle; 38 degrees, 24 minutes, 27 seconds north latitude and 114 degrees, 47 minutes, 15 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, and intermittently moist for 10 to 20 days cumulative from July to September due to convection storms. Xeric soil moisture regime.

Soil temperature: 45 to 47 degrees F.

Mollic epipedon thickness: 14 to 20 inches, includes all or part of the argillic horizon.

Depth to bedrock: 14 to 20 inches.

Thickness of argillic: 10 to 18 inches.

Reaction: Neutral to moderately alkaline.

Particle size control section:

Clay content—Averages 27 to 35 percent.

Rock fragment content—Averages 35 to 50 percent; mainly cobbles and gravel. Lithology is welded tuff.

A horizon:

Value—3 or 4 dry, 2 or 3 moist.

Chroma—2 or 3 dry, 1 or 2 moist.

Bt horizons:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry, 1 or 2 moist.

Texture—Ashy sandy clay loam, ashy clay loam. Subhorizons of ashy loam are in some pedons.

Rock fragments—35 to 50 percent; mainly cobbles and gravel.

Stewval series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Mountains.

Parent material: Residuum and colluvium derived from volcanic rocks with a component of volcanic ash.

Slope range: 8 to 50 percent.

Elevation: 4,900 to 7,700 feet.

Mean annual precipitation: 8 to 12 inches.

Mean annual air temperature: 50 to 54 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Stewval very gravelly fine sandy loam in an area of Nye County, Nevada, Northwest part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 55 percent pebbles.

A—0 to 1 inch; brown (10YR 5/3) very gravelly fine sandy loam, dark brown (10YR 3/3) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine vesicular and many very fine and fine interstitial pores; 45 percent pebbles; slightly effervescent; slightly alkaline (pH 7.7); abrupt smooth boundary.

Bt—1 to 4 inches; brown (7.5YR 5/4) extremely gravelly loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine interstitial pores; few faint clay films lining pores; 70 percent pebbles; strongly effervescent; slightly alkaline (pH 7.7); abrupt irregular boundary.

R—4 inches; highly fractured, hard rhyolite; few very fine and fine roots in cracks; strongly effervescent; fine discontinuous secondary silica and secondary calcium carbonate masses in cracks; clear wavy boundary.

Type location: Nye County, Nevada; side of a ridge about 1,500 feet south of the highest hill; About 1,370 feet south and 2,375 feet west of the northeast corner, section 33, T.11 N., R.36 E; 38 degrees, 46 minutes, 42 seconds north latitude and 117 degrees, 55 minutes, 59 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convection storms; aridic moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to bedrock: 4 to 14 inches to a lithic contact.

Reaction: Slightly alkaline or moderately alkaline.

Effervescence: Slightly effervescent to violently effervescent.

Calcium carbonate equivalent: 1 to 5 percent.

Volcanic glass: 5 to 25 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—Averages 18 to 35 percent.

Rock fragments—35 to 70 percent pebbles, 0 to 10 percent cobbles, 0 to 15 percent stones. Some pedons have 0 to 5 percent flagstones. Lithology of fragments is volcanic rocks such as rhyolite, dacite, andesite, or tuff.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Bt horizon:

Hue—10YR through 5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture (less than 2 mm fraction)—Loam or clay loam.

Structure—Weak or moderate fine or medium subangular blocky or granular.

Consistence—Soft or slightly hard, very friable to friable moist, slightly plastic or moderately plastic.

Clay films—Few to common.

Other features—Secondary silica and carbonate pendants are on bottom of rock fragments in some pedons.

Suak series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Residuum and colluvium derived from quartzite, shale, and limestone.

Slope range: 15 to 50 percent.

Elevation: 6,600 to 9,600 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 39 to 44 degrees F.

Frost-free period: 70 to 100 days.

Native plants: Bluebunch wheatgrass, needlegrass, curleaf mountainmahogany, and mountain big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls

Typical pedon: Suak very gravelly loam, in an area of map unit 1701, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 35 percent pebbles and 10 percent cobbles.

A—0 to 3 inches; brown (10YR 5/3) very gravelly 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, and common fine and medium roots; many very fine and common fine interstitial pores; 35 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt1—3 to 11 inches; grayish brown (10YR 5/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and few fine interstitial pores; 45 percent pebbles and 15 percent cobbles; few distinct clay films on faces of peds; slightly alkaline (pH 7.8); clear smooth boundary.

Bt2—11 to 21 inches; light brownish gray (10YR 6/2) extremely cobbly loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common fine and few medium roots; common very fine and few fine tubular and interstitial pores; 40 percent pebbles and 25 percent cobbles; common distinct clay films on faces of peds; moderately alkaline (pH 7.9); very abrupt wavy boundary.

R—21 inches; slightly fractured hard quartzite bedrock.

Type location: Lincoln County, Nevada; about 1 mile southeast of Patterson Peak and 300 feet northeast of jeep trail, USGS Milk Ranch Spring 7.5 minute topographic quadrangle; 38 degrees, 36 minutes, 29 seconds north latitude and 114 degrees, 43 minutes, 02 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring and dry in summer and fall. Typic xeric soil moisture regime

Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 8 to 17 inches, includes the upper part of the Bt horizon.

Depth to bedrock (lithic contact): 20 to 40 inches.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Bt horizons:

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Extremely cobbly loam or extremely gravelly loam.

Clay content—20 to 27 percent.

Rock fragments—60 to 85 percent.

Consistence—Soft or slightly hard, dry; very friable to friable moist; slightly sticky to moderately sticky and slightly plastic to moderately plastic, wet.

Reaction—Slightly alkaline or moderately alkaline.

Summermute series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow or moderately slow.

Runoff: Medium.

Landform: Fan skirts.

Parent material: Alluvium derived from limestone.

Slope range: 0 to 8 percent.

Elevation: 5,550 to 6,350 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 48 to 51 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, shadscale, and winterfat.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Durinodic Haplocalcids

Typical pedon: Summermute gravelly loam, in an area of Western White Pine County, Nevada, East part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 40 percent pebbles and 5 percent cobbles.

A1—0 to 3 inches; light brownish gray (10YR 6/2) gravelly loam, brown (10YR 5/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine and fine vesicular pores; 15 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

A2—3 to 11 inches; pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; weak very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and medium roots; common fine tubular and interstitial pores; 10 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—11 to 16 inches; very pale brown (10YR 7/3) gravelly loam, pale brown (10YR 6/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common fine tubular and interstitial pores; 15 percent pebbles; many secondary calcium carbonates pendants on bottoms of rock fragments; 36 percent calcium carbonate equivalent; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

2Bqk1—16 to 28 inches; very pale brown (10YR 7/3) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm, slightly sticky and nonplastic; few very fine roots; few very fine tubular and common interstitial pores; discontinuous weak cementation by secondary calcium carbonate and secondary silica, 20 percent strong silica cementation, discontinuous 1 mm laminar cap; 30 percent pebbles and 10 percent cobbles; 40 percent calcium carbonate equivalent; brittle matrix; violently effervescent; very strongly alkaline (pH 9.2); clear wavy boundary.

2Bqk2—28 to 43 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; common very fine tubular and interstitial pores; discontinuous weak cementation by secondary calcium carbonate and secondary silica, 10 percent strong silica cementation; 45 percent pebbles and 10 percent cobbles; 39 percent calcium carbonate equivalent; brittle matrix; violently effervescent; strongly alkaline (pH 9.0); gradual wavy boundary.

2C—43 to 60 inches; light yellowish brown (10YR 6/4) very gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular and interstitial pores; 50 percent pebbles and 5 percent cobbles, and 2 percent stones; 44 percent calcium carbonate equivalent; strongly effervescent; very strongly alkaline (pH 9.2).

Type location: White Pine County, Nevada; about 7 miles south of the Stonehouse at the junction of the Tippet Road and Spring Valley Road; about 550 feet north and 450 feet east of the southwest corner of section 21, T.21 N., R.66 E.; USGS Silver Canyon 7.5 minute topographic quadrangle; 39 degrees, 40 minutes, 34 seconds north latitude and 114 degrees, 31 minutes, 36 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October due to convection storms. Typic aridic soil moisture regime.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to secondary calcium carbonate: 6 to 12 inches.

Depth to horizons with discontinuous weak silica cementation: 13 to 20 inches.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragment content—35 to 60 percent, mainly pebbles. Lithology of fragments is mainly limestone.

A horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry.

Bk horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4, dry or moist.

Clay content—10 to 18 percent

Rock fragments—15 to 60 percent mainly pebbles.

Calcium carbonate content—25 to 40 percent in the less than 2 mm fraction; 40 to 60 percent in the less than 20 mm fraction.

2Bqk horizons:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy loam or fine sandy loam.

Rock fragments—35 to 60 percent, mainly pebbles.

Consistence—Hard, dry; firm, moist; nonsticky or slightly sticky and brittle when wet.

Reaction—Strongly alkaline or very strongly alkaline.

Calcium carbonate content—25 to 40 percent in the less than 2 mm fraction; 40 to 60 percent in the less than 20 mm fraction.

Secondary silica—10 to 20 percent lenses of strong silica cementation and up to 80 percent discontinuous weakly cemented lenses and masses.

2C horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—10 to 18 percent.

Rock fragments—35 to 60 percent, mainly pebbles.

Calcium carbonate content—25 to 45 percent in the less than 2 mm fraction; 40 to 60 percent in the less than 20 mm fraction.

Sycomat series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Low.

Landform: Fan skirts, fan remnants, and drainageways.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 0 to 4 percent.

Elevation: 5,550 to 5,950 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 48 to 52 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, shadscale, and bud sagebrush. Other areas may support black greasewood and winterfat.

Taxonomic class: Coarse-loamy, mixed, active, mesic Durinodic Haplocalcids

Typical pedon: Sycomat silt loam, in an area of map unit 1081, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 20 percent cyanobacteria and 5 percent lichens.

A—0 to 5 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; strong very thick platy structure parting to moderate thin platy; slightly hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine, few fine and medium vesicular, and few very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—5 to 19 inches; very pale brown (10YR 7/3) gravelly loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure parting to weak very fine and fine subangular blocky; slightly hard, very friable, slightly sticky and nonplastic; many very fine, common fine and few medium roots; many very fine, common fine and few medium tubular pores; 15 percent pebbles; secondary calcium carbonate disseminated throughout; strongly effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

Bk2—19 to 26 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/3) moist; weak coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores; secondary calcium carbonate disseminated throughout; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.9); clear smooth boundary.

Bqk1—26 to 35 inches; very pale brown (10YR 7/3) sandy loam, pale brown (10YR 6/3) moist; weak medium subangular blocky structure parting to strong very fine and fine subangular blocky; slightly hard, firm and brittle, slightly sticky and nonplastic; common very fine and few fine roots; common very fine and few fine tubular pores; continuous brittle matrix, continuous moderately and strongly cemented matrix throughout 20 percent of the horizon; secondary calcium carbonate disseminated throughout and common (5 percent) concretions around rock fragments; 10 percent pebbles; violently effervescent; very strongly alkaline (pH 9.1); clear smooth boundary.

Bqk2—35 to 45 inches; pale brown (10YR 6/3) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm and brittle, nonsticky and nonplastic; common very fine and few fine roots; common very fine and fine tubular pores; continuous brittle matrix, continuous moderately and strongly cemented brittle matrix throughout 20 percent of the horizon; secondary calcium carbonate is disseminated throughout with common (5 percent) concretions on the bottom of rock fragments; 10 percent pebbles; violently effervescent; very strongly alkaline (pH 9.1); abrupt smooth boundary.

2Ck—45 to 60 inches; pale brown (10YR 6/3) very gravelly sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine and common fine roots; many very fine and fine, and common fine and medium interstitial pores; 55 percent pebbles; secondary calcium carbonate is disseminated throughout with common (5 percent) concretions on the bottom of rock fragments; strongly effervescent; very strongly alkaline (pH 9.7).

Type location: Lincoln County, Nevada; about 0.25 mile south of Monument Well, 100 feet west of dirt road; 1,340 feet south and 1,800 feet south of the northeast corner of section 6, T.8 N., R.70 E.; USGS Hyde Well 7.5 minute topographic quadrangle; 38 degrees, 35 minutes, 14 seconds north latitude and 114 degrees, 09 minutes, 49 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. Typic aridic soil moisture regime.

Soil temperature: 47 to 53 degrees F.

Depth to calcic horizon: 2 to 6 inches.

Depth to continuous brittle matrix: 10 to 26 inches.

Effervescent: Strongly effervescent to violently effervescent.

Calcium carbonate equivalent: 15 to 30 percent of the less than 20 millimeter fraction.

Particle size control section:

Clay content—5 to 18 percent.

Rock fragments—0 to 35 percent.

A horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Bk horizons:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 or 4, dry or moist.

Clay content—5 to 18 percent.

Texture of fine earth—Sandy loam, loam or silt loam.

Rock fragments—0 to 35 percent.

Structure—Weak to moderate subangular blocky.

Reaction—Moderately alkaline to very strongly alkaline.

Consistence—Very friable or friable, moist; nonsticky or slightly sticky, nonplastic or slightly plastic, wet.

Carbonates—Strongly effervescent or violently effervescent.

Other features—Secondary calcium carbonate cemented soil masses may be absent in some pedons.

Bqk horizons:

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture of fine earth—Coarse sandy loam, sandy loam, or loam.

Clay content—5 to 18 percent.

Rock fragments—0 to 35 percent.

Structure—Medium or thick platy, subangular blocky or massive.

Consistence—Slightly hard or hard, dry; nonsticky or slightly sticky and nonplastic or slightly plastic, wet.

Reaction—Moderately alkaline to very strongly alkaline.

Other features—Discontinuous weak cementation by secondary silica and secondary calcium carbonate, with 20 to 80 percent weakly to strongly cemented plates and durinodes.

2C horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture of the fine earth—Stratified sandy loam through sand, averages loamy sand or sand.

Clay content—2 to 5 percent.

Rock fragments—Averages 35 to 60 percent, mainly pebbles.

Structure—Massive or single grain.

Consistence—Loose or soft, slightly hard dry and loose to friable moist.

Other features—Some pedons have thin strata of nongravelly sand or sandy loam.

Teebone series

Depth class: Very deep.

Drainage class: Moderately well drained.

Permeability: Slow.

Runoff: High.

Landform: Basin floors.

Parent material: Lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 5,900 to 5,950 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 46 to 50 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Basin wildrye, black greasewood, basin big sagebrush, and greenmolly kochia.

Taxonomic class: Fine, smectitic, mesic Vertic Haplocalcids

Typical pedon: Teebone silty clay loam, in an area of map unit 2030, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist, moderate thick platy structure parting to strong very fine granular; hard, friable, very sticky and very plastic; common very fine and fine roots; many very fine vesicular pores; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bkn1—2 to 8 inches; grayish brown (10YR 5/2) silty clay loam, brown (10YR 5/3) moist; common fine distinct brown (7.5YR 5/4) mottles along root channels; strong medium prismatic structure parting to strong fine angular blocky; very hard, firm, very sticky and very plastic; many very fine through medium roots; few very fine through medium tubular pores; common medium hard and firm nodules cemented by secondary calcium carbonate which slake in water; violently effervescent; very strongly alkaline (pH 9.6); clear wavy boundary.

Bkn2—8 to 17 inches; light brownish gray (10YR 6/2), silty clay loam, brown (10YR 5/3) moist; common fine distinct yellowish brown (10YR 5/4) mottles along root channels; moderate medium prismatic structure parting to strong fine angular blocky; hard, firm, very sticky and very plastic; common fine and medium roots; few very fine through medium tubular pores; common medium hard and firm nodules cemented by secondary calcium carbonate which slake in water; violently effervescent; very strongly alkaline (pH 9.6); clear wavy boundary.

Bkn3—17 to 31 inches; light brownish gray (10YR 6/2), silty clay loam, brown (10YR 5/3) moist; common medium faint yellowish brown (10YR 5/4) mottles along root channels; moderate coarse prismatic structure parting to moderate medium subangular blocky; hard, firm, very sticky and very plastic; few fine and medium roots; few fine tubular pores; common medium hard and firm nodules cemented by secondary calcium carbonate which slake in water; violently effervescent; very strongly alkaline (pH 9.6); gradual wavy boundary.

Bkng1—31 to 50 inches; light gray (5Y 7/2) silty clay, light olive gray (5Y 6/2) moist; few fine distinct black (10YR 2/1) manganese stains; massive; slightly hard, friable, very sticky and very plastic; few fine and medium roots; few fine tubular pores; many fine powdery masses of secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 9.6); gradual wavy boundary.

Bkng2—50 to 60 inches; light gray (5Y 7/2) silty clay loam, light olive gray (5Y 6/2) moist; few fine distinct black (10YR 2/1) manganese stains; massive; slightly hard, friable, very sticky and very plastic; few fine and medium roots; few fine tubular pores; many fine powdery masses of secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 9.6); gradual wavy boundary.

Type location: Lincoln County, Nevada; approximately 4 miles west of Gougeye Well, 1,240 feet north and 860 feet west of the southeast corner of section 36, T.9 N., R.65 E.; 38 degrees, 35 minutes, 34 seconds north latitude and 114 degrees, 37 minutes, 21 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring and intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. The water table is within 3 to 5 feet of the soil surface in early spring.

Mean annual soil temperature: 48 to 52 degrees F.

Salinity: 4 to 8 millimhos/cm.

Aquic conditions: Between 30 and 40 inches in most years.

Control section:

Clay content—35 to 50 percent.

A horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 or 3, dry or moist.

Reaction—Strongly alkaline or very strongly alkaline.

Calcium carbonate equivalent—15 to 25 percent.

SAR—1 to 5.

Bkn horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Silty clay, or silty clay loam.

Calcium carbonate equivalent—25 to 40 percent and is 5 percent or more higher than in the Bkng horizons.

SAR—13 to 45.

Mottles—High chroma mottles are absent in some pedons.

Bkng horizons:

Hue—2.5Y, or 5Y.

Value—6 or 7 dry, 5 or 6 moist.

Chroma—1 or 2, dry or moist.

Texture—Clay, silty clay, or silty clay loam.

Calcium carbonate equivalent—20 to 30 percent.

SAR—13 to 45.

Mottles—Few to common, black or reddish redoximorphic concentrations.

Threedogs series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Slow.

Runoff: Low.

Landform: Alluvial flats.

Parent material: Alluvium derived from limestone and welded tuff.

Slope range: 0 to 2 percent.

Elevation: 5,450 to 5,600 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 50 to 57 degrees F.

Frost-free period: 110 to 120 days.

Native plants: Basin wildrye, alkali sacaton, and fourwing saltbush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Typic Calciargids

Typical pedon: Threedogs loam, in an area of map unit 3610, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 4 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; strong thick platy structure parting to moderate thin platy; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common

very fine and few fine tubular pores; calcium carbonate equivalent is 25 percent; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

A2—4 to 12 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and medium roots; common very fine and few fine tubular pores; calcium carbonate equivalent is 30 percent; violently effervescent; very strongly alkaline (pH 9.8); clear smooth boundary.

Btk1—12 to 20 inches; pale brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 4/4) moist; strong medium subangular blocky structure parting to moderate medium platy; slightly hard, friable, moderately sticky and moderately plastic; few very fine, common fine and medium roots; common very fine, few fine, medium and coarse tubular pores; few faint clay films on faces of peds and lining pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 30 percent; violently effervescent; very strongly alkaline (pH 10.1); clear smooth boundary.

Btk2—20 to 35 inches; pale brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse subangular blocky structure parting to weak fine angular blocky; very hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine, few fine, medium and coarse tubular and interstitial pores; common distinct clay films on faces of peds and lining pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 29 percent; violently effervescent; very strongly alkaline (pH 9.9); gradual smooth boundary.

Bk1—35 to 46 inches; pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; many very fine, common fine, and few medium tubular and interstitial pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 32 percent; violently effervescent; very strongly alkaline (pH 9.4); gradual smooth boundary.

Bk2—46 to 60 inches; light gray (10YR 7/2) loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine and fine tubular and interstitial pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 50 percent; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

Bk3—60 to 71 inches; light gray (10YR 7/2) very fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine and fine tubular and interstitial pores; secondary calcium carbonate is finely disseminated; calcium carbonate equivalent is 30 percent; violently effervescent; very strongly alkaline (pH 9.2).

Type location: Lincoln County, Nevada; approximately 3 miles southeast of Bigspring Ranch, 0.3 mile south of the White Pine County line and 50 feet east of a jeep trail and 50 feet north of a stock water pipeline; about 1,200 feet south and 1,100 feet west of the northeast corner of section 2, T.9 N., R.70 E.; USGS Tweedy Wash 7.5 minute topographic quadrangle; 38 degrees, 40 minutes, 28 seconds north latitude and 114 degrees, 05 minutes, 16 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring and for 10 to 20 days cumulative due to summer convection storms.

Typic aridic soil moisture regime.

Mean annual soil temperature: 52 to 59 degrees F.

Depth to argillic horizon: 9 to 14 inches.

Thickness of the argillic horizon: 16 to 30 inches.

Depth to calcic horizon: 30 to 50 inches.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragments—0 to 5 percent.

A1 horizon:

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent—20 to 30 percent of the material less than 2 mm.

Reaction—Moderately alkaline or strongly alkaline.

A2 horizon:

Chroma—3 or 4, dry or moist.
 Texture—Loam or silt loam.
 Clay content—18 to 24 percent.
 Rock fragment content—0 to 5 percent.
 Calcium carbonate equivalent—20 to 35 percent of the material less than 2 mm.
 Reaction—Strongly alkaline or very strongly alkaline.

Btk horizons:

Value—6 or 7 dry, 4 or 5 moist.
 Chroma—3 through 6, dry or moist.
 Texture—Clay loam or silty clay loam, subhorizons of silt loam are in some pedons.
 Clay content—Averages 27 to 35 percent.
 Rock fragments—0 to 5 percent, mainly pebbles.
 Calcium carbonate equivalent—25 to 35 percent of the material less than 2 mm.
 Reaction—Strongly alkaline or very strongly alkaline.

Bk1 and Bk2 horizons:

Value—6 or 7 dry, 4 or 5 moist.
 Chroma—2 through 4, dry or moist.
 Clay content—22 to 32 percent.
 Rock fragments—0 to 15 percent.
 Calcium carbonate equivalent—30 to 60 percent of the material less than 2 mm.
 Reaction—Strongly alkaline or very strongly alkaline.
 Other features—Some pedons have few fine gypsum threads, and few faint relict iron concentrations

Bk3 horizon:

Value—6 or 7 dry, 5 or 6 moist.
 Chroma—2 or 3, dry or moist.
 Textures—Very fine sandy loam, loam or clay loam.
 Clay content—15 to 30 percent.
 Rock fragment content—0 to 15 percent.
 Calcium carbonate equivalent—25 to 35 percent of the material less than 2 mm, decreases 5 percent or more from the overlying Bk horizons.
 Reaction—Strongly alkaline or very strongly alkaline.
 Other features—Some pedons have few fine gypsum threads, and common distinct relict iron concentrations

Treadwell series

Depth class: Very shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium and high.

Landform: Fan remnants and ballenas.

Parent material: Alluvium derived from welded tuff, basalt, and a component of calcareous loess.

Slope range: 4 to 30 percent.

Elevation: 4,250 to 6,400 feet.

Mean annual precipitation: 6 to 8 inches.

Mean annual air temperature: 50 to 53 degrees F.

Frost-free period: 110 to 140 days.

Native plants: Indian ricegrass, galleta, spiny menodora and Nevada ephedra. Other areas may support Nevada dalea.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Typic Haplodurids

Typical pedon: Treadwell gravelly sandy loam, in an area of map unit 1955, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 55 percent pebbles of which 25 percent is broken pan fragments, 10 percent cobbles and 5 percent stones. Lithology is mainly welded tuff and basalt. Exposed parts of the rock fragments have a thin coat of desert varnish and secondary calcium carbonate pendants on the bottoms.

A—0 to 5 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; few fine and medium roots; common very fine and fine irregular pores; 30 percent pebbles; calcium carbonate equivalent is 13 percent; violently effervescent; strongly alkaline (pH 8.5); abrupt smooth boundary.

Bqk—5 to 8 inches; light gray (10YR 7/2) extremely gravelly sandy loam, brown (10YR 5/3) moist; strong thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; few very fine and common fine irregular pores; 65 percent pebbles of which 40 percent is broken pan fragments; 10 percent thin secondary calcium carbonate concretions around rock fragments and secondary silica and calcium carbonate pendants on the bottom of rock fragments; calcium carbonate equivalent is 14 percent; violently effervescent; strongly alkaline (pH 8.6); very abrupt wavy boundary.

Bqkm—8 to 35 inches; white (10YR 8/1) cemented material, very pale brown (10YR 7/3) moist; strong thick platy structure; very rigid, indurated (2 to 5 millimeter thick) laminar caps alternating with moderately and strongly cemented material, cemented by secondary silica and calcium carbonate; few very fine and fine roots mostly matted on laminar caps; few very fine and fine interstitial pores; 30 percent extremely gravelly sandy loam between cemented layers; violently effervescent; very strongly alkaline (pH 8.9); gradual wavy boundary.

Bkq—35 to 60 inches; light gray (10YR 7/2) extremely gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine irregular pores; 65 percent pebbles; many (40 percent) discontinuous lenses less than 3 inches thick that are weakly and moderately cemented by secondary calcium carbonate and silica with secondary calcium carbonate coats decreasing on pebbles with depth; calcium carbonate equivalent is 5 percent; violently effervescent; very strongly alkaline (pH 9.3).

Type location: Lincoln County, Nevada; approximately 15 miles north of Hiko, 2.5 miles south southwest of White River Narrows, 1.25 miles east of State Highway 318, and 50 feet south of two track road; about 200 feet north and 660 feet east of the southwest corner section 8, T.2 S., R.62 E.; USGS White River Narrows 7.5 minute topographic quadrangle; 37 degrees, 47 minutes, 4 seconds north latitude and 115 degrees, 3 minutes, 35 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and early spring and intermittently moist for 10 to 20 days cumulative from July through September due to convection storms. Typic aridic soil moisture regime.

Soil temperature: 52 to 55 degrees F.

Depth to duripan: 4 to 10 inches.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—35 to 60 percent, mostly pebbles. Lithology of pebbles is mainly broken pan fragments.

A horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 or 3, dry or moist.

Reaction—Moderate alkaline to strongly alkaline.

Calcium carbonate equivalent—10 to 20 percent of the material less than 2 mm.

Bqk horizons:

Hue—10YR or 7.5YR.

Value—7 or 8 dry, 5 through 7 moist.

Chroma—1 through 3, dry or moist.

Texture—Extremely gravelly fine sandy loam and extremely gravelly sandy loam.

Reaction—Strongly alkaline to very strongly alkaline.
 Calcium carbonate equivalent—10 to 20 percent of the material less than 2 mm.

Bqkm horizon:

Value—7 or 8 dry, 7 or 8 moist.
 Chroma—1 through 3, dry or moist.
 Cementation—Indurated laminar caps 1 to 10 millimeters thick and alternating layers of indurated or very strongly cemented material and moderately cemented or strongly cemented material are in most pedons.

Bkq horizon:

Hue—10YR or 7.5YR.
 Value—6 through 8 dry, 4 through 7 moist.
 Chroma—1 through 3, dry or moist.
 Texture—Loamy coarse sand or coarse sand.
 Clay content—0 to 5 percent.
 Rock fragments—60 to 80 percent, mainly pebbles.
 Reaction—Strongly alkaline or very strongly alkaline.
 Other features—15 to 40 percent of the layer is discontinuous cemented layers less than 3 inches thick that are weakly and moderately cemented by secondary calcium carbonate and silica.

Tybo series

Depth class: Very shallow and shallow to a duripan.
Drainage class: Well drained.
Permeability: Moderately rapid.
Runoff: Very low and low.
Landform: Fan remnants.
Parent material: Alluvium derived from quartzite, limestone, and welded tuff.
Slope range: 2 to 8 percent.
Elevation: 4,650 to 5,700 feet.
Mean annual precipitation: 5 to 8 inches.
Mean annual air temperature: 48 to 57 degrees F.
Frost-free period: 120 to 150 days.
Native plants: Indian ricegrass, desert needlegrass, spiny hopsage, and Nevada ephedra.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Typic Haplodurids

Typical pedon: Tybo gravelly coarse sandy loam in an area of map unit 1473, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 55 percent pebbles.

- A—0 to 3 inches; pale brown (10YR 6/3) gravelly coarse sandy loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine, and few medium roots; many very fine interstitial pores; 30 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); clear smooth boundary.
- Bk1—3 to 14 inches; pale brown (10YR/ 6/3) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine, common fine, and few medium roots; many very fine interstitial pores; 20 percent pebbles; common (5 percent) secondary calcium carbonate concretions around rock fragments; slightly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.
- Bk2—14 to 17 inches; very pale brown (10YR 7/3) gravelly sandy loam, pale brown (10YR 6/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine and medium roots; few very fine and fine interstitial pores; 20 percent weathered duripan fragments strongly cemented by secondary calcium carbonate; violently effervescent; very strongly alkaline (pH 8.9); very abrupt smooth boundary.

Bkqm—17 to 60 inches; white (10YR 8/1) cemented material, very pale brown (10YR 7/3) moist; massive; very rigid extremely hard, extremely firm, brittle; alternating layers that are moderately cemented to indurated.

Type location: Lincoln County, Nevada; 10 feet off the dirt road; 1,760 feet south and 700 feet west of the northwest corner of section 8, T.2 S., R.65 E.; USGS The Bluffs 7.5 minute topographic quadrangle; 37 degrees, 47 minutes, 34 seconds north latitude and 114 degrees, 42 minutes, 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, but are moist for short periods during the winter and early spring months and for 10 to 20 days cumulative following convection storms during July through October; Typic aridic moisture regime.

Mean annual soil temperature: 47 to 59 degrees F.

Depth to duripan: 8 to 20 inches.

Particle size control section:

Clay content—8 to 18 percent.

Rock fragments—Averages 15 to 35 percent, mainly pebbles and pebble-sized duripan fragments.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—1 through 4, dry or moist.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Strongly alkaline or very strongly alkaline.

Bk horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—1 through 4, dry or moist.

Texture—Gravelly sandy loam, gravelly fine sandy loam, or gravelly very fine sandy loam.

Clay content—8 to 18 percent.

Rock fragments—15 to 35 percent.

Structure—Subangular blocky or massive.

Consistence—Nonsticky or slightly sticky, nonplastic or slightly plastic.

Calcium carbonate equivalent—3 to 10 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Bkqm horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 though 7 moist.

Chroma—1 through 4, dry or moist.

Structure—Thick platy or massive.

Consistence—Indurated or strongly cemented with an indurated subhorizon.

Ubehebe series

Depth class: Shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Hills.

Parent material: Residuum and colluvium derived from shale.

Slope range: 15 to 50 percent.

Elevation: 6,300 to 7,900 feet.

Mean annual precipitation: 10 to 12 inches.

Mean annual air temperature: 47 to 49 degrees F.

Frost-free period: 100 to 110 days.

Native plants: Bluebunch wheatgrass, mountain big sagebrush, and Stansbury's cliffrose.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Argixerolls

Typical pedon: Ubehebe very channery sandy loam, in an area of map unit 1525, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 40 percent channers and 10 percent flagstones.

A1—0 to 3 inches; brown (10YR 5/3) very channery sandy loam, dark brown (10YR 3/3) moist; weak medium platy structure parting to strong medium granular; soft, very friable, nonsticky and nonplastic; common very fine, and few fine roots; common very fine and fine vesicular pores; 40 percent channers; slightly alkaline (pH 7.5); clear smooth boundary.

A2—3 to 7 inches; brown (10YR 5/3) very channery loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and fine interstitial pores; 40 percent channers; moderately alkaline (pH 8.1); clear smooth boundary.

Bt1—7 to 12 inches; brown (10YR 5/3) very channery loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; few very fine and medium, and common fine roots; common very fine and fine interstitial and tubular pores; 40 percent channers and 5 percent flagstones; common faint clay films on faces of peds and lining pores; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bt2—12 to 19 inches; yellowish brown (10YR 5/4) very channery loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine, fine and medium roots; common very fine and fine tubular and interstitial pores; 40 percent channers and 10 percent flagstones; common distinct clay films on faces of peds and lining pores; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Cr—19 inches; partially weathered somewhat altered shale.

Type location: Lincoln County, Nevada; in a road cut about 1 mile south of Stampede Pass on the west side of Highland Peak; 1,200 feet south and 1,780 feet east of the northwest corner section 17, T.1 N., R.66 E.; USGS Highland Peak 7.5 minute topographic quadrangle; 37 degrees, 56 minutes, 59 seconds north latitude and 114 degrees, 36 minutes, 14 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and fall except for 10 to 20 days during July to October due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 57 degrees F.

Mollic epipedon thickness: 7 to 12 inches. (includes the Bt1)

Depth to paralithic contact: 14 to 20 inches.

Depth to hard bedrock: 20 to 40 inches.

Reaction: Slightly alkaline or moderately alkaline.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—35 to 55 percent, mainly 1/2 to 3 inches across. Some pedons are dominated by channers.

A horizons:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Carbonates—Noneffervescent or slightly effervescent.

Bt1 horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Structure—Weak or moderate.

Consistence—Soft or slightly hard, very friable or friable, slightly sticky or moderately sticky and slightly plastic or moderately plastic.

Clay films—Few or common.

Carbonates—Slightly effervescent or strongly effervescent.

Calcium carbonate equivalent—1 to 10 percent of the material less than 2 mm.

Bt2 horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Consistence—Slightly sticky or moderately sticky and nonplastic to moderately plastic.

Carbonates—Slightly effervescent or violently effervescent.

Calcium carbonate equivalent—10 to 20 percent of the material less than 2 mm.

Urmafot series

Depth class: Very shallow or shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from mixed rock sources.

Slope range: 2 to 15 percent.

Elevation: 6,000 to 7,600 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Bluebunch wheatgrass, Indian ricegrass, and black sagebrush. When adjacent to woodlands, scattered invaded singleleaf pinyon and Utah juniper can occur.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Haploduridic Durixerolls

Typical pedon: Urmafot gravelly sandy loam, in an area of map unit 1211, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 15 percent pebbles.

A1—0 to 3 inches; brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 3/3) moist; weak medium granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine vesicular pores and common very fine and fine tubular pores; 20 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

A2—3 to 10 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine, fine, medium, and coarse roots; common very fine and fine tubular pores; 20 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—10 to 20 inches; light yellowish brown (10YR 6/4) gravelly loam, yellowish brown (10YR 5/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common very fine, fine, medium, and coarse roots; common very fine and fine tubular pores; many distinct secondary calcium carbonate pendants on the bottom of rock fragments; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); very abrupt wavy boundary.

2Bqkm1—20 to 26 inches; very pale brown (10YR 8/2) cemented material, very pale brown (10YR 7/3) moist; massive; very rigid; indurated by secondary silica and calcium carbonate; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bqkm2—26 to 39 inches; very pale brown (10YR 8/2) cemented material, very pale brown (10YR 7/3) moist; massive; extremely hard, extremely firm; strongly cemented by secondary silica and calcium carbonate; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

3Bqk—39 to 60 inches; very pale brown (10YR 7/3) stratified extremely gravelly coarse sandy loam to extremely gravelly sandy loam; brown (10YR 5/3) moist; massive; hard, firm, nonsticky and nonplastic; many very fine interstitial pores; 50 percent secondary calcium carbonate and secondary silica cementation throughout the matrix; common distinct secondary calcium carbonate pendants on the bottom of rock fragments; 55 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; 0.25 mile west of Cave Valley Wash, 20 feet from the dirt road; about 1,700 feet south and 2,470 feet west of the northeast corner of section 17, T.8 N., R.64 E.; USGS Shingle Pass SE 7.5 minute topographic quadrangle; 38 degrees, 33 minutes, 8 seconds north latitude and 114 degrees, 48 minutes, 53 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry summer through mid-fall. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to duripan: 9 to 20 inches.

Mollic epipedon thickness: 7 to 12 inches.

Other features: Some pedons have thin subhorizons that have up to 20 percent strong silica cementation above the pan.

Particle size control section:

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent.

A horizons:

Value—5 or 6 dry, 2 through 4 moist. Averages after mixing values less than 5.5 dry and 3.5 moist.

Chroma—2 or 3, dry or moist.

Effervescence—Slightly effervescent to violently effervescent.

Bk horizon:

Value—5 or 6 dry

Chroma—2 through 4, dry or moist.

Structure—Fine or medium subangular blocky.

Consistence—Soft or slightly hard dry, very friable or friable, moist, slightly plastic or moderately plastic, wet.

Identifiable secondary calcium carbonates—Distinct or prominent pendants.

Calcium carbonate equivalent—20 to 40 percent in the material less than 2 mm.

Other features—This horizon is absent in some pedons.

Bqkm horizons:

Other features—Horizons are very strongly cemented or indurated.

3Bqk horizon:

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 5 through 7 moist.

Chroma—1 through 4, dry or moist.

Clay content—5 to 15 percent.

Consistence—Hard or very hard, firm or very firm moist.

Rock fragments—55 to 80 percent pebbles and 5 to 25 percent cobbles with 0 to 5 percent stones.

Calcium carbonate equivalent—20 to 40 percent in the material less than 2 mm.

Other features—50 to 70 percent discontinuous silica and secondary calcium carbonate cementation.

Ursine series

Depth class: Shallow to a duripan.

Drainage class: Well drained.

Permeability: Moderate to moderately rapid.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Alluvium derived from limestone with a minor component of quartzite.

Slope range: 0 to 30 percent.

Elevation: 4,250 to 7,500 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 49 to 53 degrees F.

Frost-free period: 120 to 150 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush. Some areas may support Fremont's barberry, Stansbury's cliffrose, or scattered Utah juniper.

Taxonomic class: Loamy-skeletal, carbonatic, mesic, shallow Xeric Haplodurids

Typical pedon: Ursine gravelly loam, in a map unit of 1030, rangeland. (Colors are for dry soil unless otherwise noted.)
The soil surface is partially covered with approximately 35 percent pebbles and 2 percent cobbles.

A—0 to 2 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots, common very fine and fine interstitial and tubular pores; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—2 to 8 inches; light yellowish brown (10YR 6/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium, and common coarse roots; many very fine and fine tubular pores; common distinct secondary calcium carbonate concretions on bottom of rock fragments; 15 percent pebbles; 5 percent pebble-sized duripan fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk2—8 to 16 inches; very pale brown (10YR 7/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, nonsticky and nonplastic; common very fine and fine roots; common fine tubular pores; common distinct secondary calcium carbonate concretions on bottom of rock fragments; 25 percent pebbles; 25 percent pebble-sized duripan fragments; violently effervescent; moderately alkaline (pH 8.4); very abrupt wavy boundary.

Bqkm—16 to 60 inches; very pale brown (10YR 8/2) cemented material, pale brown (10YR 6/3) moist; massive; very rigid; indurated by secondary silica and calcium carbonate with a 1 to 2 mm thick laminar cap.

Type location: Lincoln County, Nevada; approximately 1.25 miles northwest of Wells Summit; about 500 feet east and 100 feet south of the northwest corner of section 30, T.8 N., R.69 E.; 38 degrees, 31 minutes, 58 seconds north latitude and 114 degrees, 17 minutes, and 8 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and early spring months and for short intermittent periods, 10 to 20 days cumulative, from mid July through early September due to summer convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 51 to 55 degrees F.

Depth to hardpan: 14 to 20 inches.

Reaction: Moderately alkaline to very strongly alkaline.

Calcium carbonate equivalent: 40 to 60 percent of the material less than 2 mm.

Control section:

Clay content—Averages 10 to 20 percent.

Rock fragments—35 to 55 percent, mostly pan fragments. Some pedons are dominated by limestone rock fragments.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.
 Chroma—2 through 4, dry or moist.
 Effervescence—Strongly effervescent or violently effervescent.

Bk horizons:

Hue—10YR or 7.5YR.
 Value—6 through 8 dry, 4 through 7 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Sandy loam, loam, or silt loam, very fine sandy loam, fine sandy loam, coarse sandy loam.
 Structure—Weak to strong subangular blocky, or massive.
 Clay content—8 to 20 percent.
 Rock fragments—35 to 55 percent, dominated by pan fragments. Some pedons are dominated by limestone rock fragments.
 Other features—Some pedons have secondary calcium carbonate concretions around rock fragments.

Bqkm horizon:

Value—6 through 8 dry, 5 through 7 moist.
 Chroma—1 through 3, dry or moist.
 Other features—The silica laminar cap ranges from 1 to 5 mm thick, with strongly cemented secondary calcium carbonate and silica lenses decreasing with depth.

Veet series

Depth class: Very deep.
Drainage class: Well drained.
Permeability: Moderate.
Runoff: Very low and low.
Landform: Inset fans and fan skirts.
Parent material: Alluvium derived from welded tuff.
Slope range: 0 to 15 percent.
Elevation: 4,250 to 6,800 feet.
Mean annual precipitation: 8 to 10 inches.
Mean annual air temperature: 49 to 54 degrees F.
Frost-free period: 100 to 140 days.
Native plants: Indian ricegrass, galleta, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Xeric Haplocambids

Typical pedon: Veet gravelly sandy loam, in a map unit of 1132, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 35 percent pebbles. Lithology of the fragments is welded tuff.

A—0 to 4 inches; pale brown (10YR 6/3) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium granular structure; soft, very friable, nonsticky and nonplastic; common fine and few fine roots; many very fine and common fine interstitial pores; 30 percent pebbles; slightly effervescent; slightly alkaline (pH 7.4); clear smooth boundary.

Bw—4 to 16 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, common fine, and few medium roots; many very fine and common fine interstitial pores; 35 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—16 to 37 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine, and few medium roots; common very fine and fine interstitial pores; 35 percent pebbles; common (10 percent) secondary

calcium carbonate concretions on the bottom of rock fragments; strongly effervescent; strongly alkaline (pH 8.5); gradual smooth boundary.

Bk2—37 to 60 inches; very pale brown (10YR 7/3) stratified very gravelly loamy coarse sand and extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine, and few medium roots; common very fine and fine interstitial pores; 55 percent pebbles; many (20 percent) secondary calcium carbonate concretions on the bottom of rock fragments; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Lincoln County, Nevada; 1.3 miles east of Wheatgrass Spring; 1,590 feet north and 2,540 feet east of the southwest corner of section 23, T.2 N., R.63 E.; USGS Wheatgrass Spring 7.5 minute topographic quadrangle; 37 degrees, 45 minutes, 32 seconds north latitude and 114 degrees, 53 minutes, 18 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring months, dry in summer and fall except for 10 to 20 days cumulative between July and October due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to secondary calcium carbonate: 10 to 20 inches.

Particle size control section:

Clay content—8 to 15 percent.

Rock fragments—Averages 35 to 65 percent, mainly pebbles.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline to strongly alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Bw horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Structure—Weak or moderate, fine or medium subangular blocky.

Rock fragments—35 to 60 percent, mainly pebbles.

Consistence—Soft or slightly hard, nonsticky or slightly sticky nonplastic or slightly plastic.

Calcium carbonate equivalent—1 to 15 percent in the material less than 2 mm.

Reaction—Slightly alkaline to strongly alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Bk horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Structure—Massive or subangular blocky.

Texture—Stratified extremely gravelly sandy loam to very gravelly loamy coarse sand. Average sandy loam or coarse sandy loam.

Rock fragments—35 to 60 percent, mainly pebbles when mixed; individual strata range up to 85 percent.

Consistence—Soft or slightly hard, nonsticky or slightly sticky, nonplastic or slightly plastic.

Calcium carbonate equivalent—1 to 15 percent in the material less than 2 mm.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Other features—Very thin secondary calcium carbonate pendants on the bottom of rock fragments.

Wambolt series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately slow.

Runoff: Very high.

Landform: Fan remnants.

Parent material: Colluvium and alluvium derived from quartzite.

Slope range: 8 to 30 percent.

Elevation: 6,500 to 8,500 feet.

Mean annual precipitation: 14 to 16 inches.

Mean annual air temperature: 40 to 44 degrees F.

Frost-free period: 70 to 90 days.

Native plants: Bluebunch wheatgrass, muttongrass, mountain big sagebrush, and curleaf mountainmahogany.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls

Typical pedon: Wambolt extremely gravelly loam, in an area of map unit 1270, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 10 inches; brown (10YR 4/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium and coarse roots; many very fine and fine, and common medium tubular pores; 50 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.6); clear wavy boundary.

Bt1—10 to 20 inches; yellowish brown (10YR 5/4) extremely gravelly clay loam; dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common very fine and fine, and few medium roots; many very fine and fine tubular pores; few faint clay films on faces of peds; 55 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.6); clear wavy boundary.

Bt2—20 to 36 inches; light brown (7.5YR 6/4) extremely gravelly clay loam, brown (7.5YR 5/4) moist; moderate very fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine tubular pores; many prominent and distinct red (2.5YR 5/6) clay films on faces of peds; 60 percent pebbles, 15 percent cobbles, and 10 percent stones; neutral (pH 6.8); clear wavy boundary.

C—36 to 60 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam; brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; 60 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.6).

Type location: Lincoln County, Nevada; about 2.9 miles northeast of Cave Spring along a jeep trail; about 1,200 feet north and 1,400 feet east of the southwest corner of section 2, T.9 N., R.64 E.; USGS Parker Station 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, 48 seconds north latitude and 114 degrees, 45 minutes, 52 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, and intermittently moist for 10 to 20 cumulative days in the upper part of the moisture control section during July through September due to convection storms. Xeric soil moisture regime that borders on aridic.

Mean annual soil temperature: 42 to 46 degrees F.

Mollic epipedon thickness: 10 to 19 inches; includes the Bt1 horizon in some pedons.

Reaction: Neutral or slightly alkaline.

Particle size control section:

Clay content—27 to 35 percent.

Rock fragments—60 to 85 percent, mainly pebbles. Lithology of fragments is mainly quartzite.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—2 to 4 percent.

Bt horizons:

Hue—10YR or 7.5YR in interiors of peds; 2.5YR through 10YR for clay films on faces of peds.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Structure—Angular blocky or subangular blocky.

Organic matter content—0.5 to 1 percent.

Other features—Texture of extremely gravelly clay is in the Bt2 horizons of some pedons.

C horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 through 6 moist.

Chroma—4 through 6, dry or moist.

Clay content—5 to 15 percent.

Rock fragments—60 to 85 percent, mainly pebbles.

Wardbay series

Depth class: Deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 15 to 50 percent.

Elevation: 8,500 to 10,000 feet.

Mean annual precipitation: 16 to 22 inches.

Mean annual air temperature: 39 to 44 degrees F.

Frost-free period: 50 to 70 days.

Native plants: Bluebunch wheatgrass, Canby's bluegrass, and mountain big sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Pachic Calcixerolls

Typical pedon: Wardbay very gravelly loam in an area of NV780, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with approximately 60 percent pebbles and 5 percent stones.

A1—0 to 2 inches; gray (10YR 5/1) very gravelly loam, very dark gray (10YR 3/1) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine tubular pores; 35 percent pebbles; strongly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

ABk—2 to 18 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, and fine, few medium and coarse roots; common very fine tubular pores; 30 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—18 to 23 inches; grayish brown (10YR 5/2) very cobbly silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, and few medium and coarse roots; common very fine tubular pores; distinct to prominent secondary calcium carbonate pendants on the bottom of rock fragments; 40 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—23 to 45 inches; grayish brown (10YR 5/2) extremely cobbly silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; many secondary calcium carbonate concretions on the bottom of rock fragments; violently effervescent; 45 percent pebbles and 25 percent cobbles; moderately alkaline (pH 8.0); clear irregular boundary.

2R—45 inches; limestone.

Type location: White Pine County, Nevada; about 12 miles south of Ely; approximately 1,800 feet south and 2,000 feet east of the northwest corner of section 15, T.14 N., R.63 E.; USGS Ward Mountain 7.5 minute topographic quadrangle; 39 degrees, 04 minutes, 48 seconds north latitude and 114 degrees, 53 minutes, 08 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry summer and early fall. Xeric soil moisture regime that borders on aridic.

Mean annual soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 35 to 60 inches.

Depth to bedrock: 40 to 60 inches to a lithic contact.

Effervescence: Slightly effervescent through violently effervescent.

Calcium carbonate content: 25 to 40 percent in the less than 2 mm fraction, 40 to 60 percent in the less than 20 millimeter fraction.

Particle size control section:

Clay content—18 to 27 percent.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Bk horizons:

Value—5 or 6 dry, 3 through 5 moist.

Texture—Very gravelly loam, extremely gravelly silt loam, extremely cobbly silt loam, or very cobbly silt loam.

Structure—Weak or moderate, fine to medium subangular blocky.

Consistence—Soft or slightly hard dry.

Rock fragments—55 to 85 percent, of which 35 to 60 percent are pebbles and 15 to 40 percent are cobbles and stones, dominantly cobbles.

Identifiable secondary carbonates—Many distinct or prominent secondary calcium carbonate pendants or coats on the bottom of rock fragments.

Watoopah series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: Low.

Landform: Fan remnants.

Parent material: Alluvium derived from volcanic rocks with a component of volcanic ash.

Slope range: 0 to 8 percent.

Elevation: 4,800 to 7,250 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 48 to 52 degrees F.

Frost-free period: 90 to 120 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids

Typical pedon: Watoopah gravelly ashy loamy sand, in an area of map unit 1120, rangeland. (Colors are for dry soil unless otherwise noted.)

- A1—0 to 1 inch; pale brown (10YR 6/3) gravelly loamy sand, brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 15 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.
- A2—1 to 4 inches; brown (10YR 5/3) gravelly loamy sand, brown (10YR 4/3) moist; weak very thick platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; 15 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.
- Bt—4 to 14 inches; brown (7.5YR 5/4) sandy loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine medium, and coarse roots; many very fine and fine tubular pores; common faint clay films bridging sand grains; 10 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.
- Bq—14 to 20 inches; yellowish brown (10YR 5/4) gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, nonsticky and nonplastic; common very fine, and fine, and few medium roots; many very fine tubular pores; 15 percent pebbles; 20 percent weakly cemented durinodes; slightly alkaline (pH 7.6); clear smooth boundary.
- Bqk—20 to 40 inches; very pale brown (10YR 7/3) gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; hard, brittle, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial and tubular pores; many fine secondary calcium carbonate concretions around rock fragments; 20 percent weakly cemented durinodes; continuous brittle matrix; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- Ck—40 to 60 inches; very pale brown (10YR 7/4) stratified gravelly coarse sandy loam to coarse sand;; yellowish brown (10YR 5/4) moist; sandy strata are single grain; loose, loamy strata are massive; soft, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; many very fine interstitial pores; common (3 percent) distinct secondary calcium carbonate concretions around rock fragments; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.2).

Type location: Lincoln County, Nevada; 10 feet off the jeep trail, 0.5 mile from the Utah-Nevada state boundary; 1,790 feet east and 1,090 feet north of the southwest corner of section 7, T.6 N., R.71 E.; USGS Hamlin Well 7.5 minute topographic quadrangle; 38 degrees, 23 minutes, 27 seconds north latitude and 114 degrees, 03 minutes, 33 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring and intermittently moist for 10 to 20 days (cumulative) in the upper part of the moisture control section between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Soil temperature: 53 to 59 degrees F.

Depth to base of argillic horizon: 10 to 24 inches.

Volcanic glass content: 5 to 20 percent volcanic glass in the 0.02 mm to 2.0 mm fraction.

Other features: The estimated product of the ammonium extractable aluminum plus half the iron times 60 plus the volcanic glass is 20 to 30.

Control section:

Clay content—10 to 18 percent.

Rock fragments—5 to 25 percent, mainly pebbles. Lithology of fragments is volcanic rocks such as tuff and rhyolite.

A horizons:

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR or 7.5YR

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy loam or gravelly sandy loam; thin subhorizons of sandy clay loam are in some pedons.

Consistence—Friable or very friable moist; nonsticky to slightly sticky and nonplastic to slightly plastic, wet.

Reaction—Neutral or slightly alkaline.

Bq and Bqk horizons:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly loamy sand, gravelly sandy loam, or sandy loam.

Structure—Massive or subangular blocky.

Consistence—Soft to hard, very friable to firm, nonsticky or slightly sticky and nonplastic or slightly plastic.

Effervescence—Noneffervescent to violently effervescent.

Rock fragments—5 to 35 percent, mainly pebbles.

Reaction—Slightly alkaline or moderately alkaline.

Silica cementation—Weakly cemented; most pedons contain 20 to 50 percent weakly to strongly cemented durinodes and may also have a continuous brittle matrix. Some pedons have only 5 to 20 percent durinodes, but have a continuous brittle matrix.

Calcium carbonate equivalent—0 to 10 percent.

C horizon:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 or 4.

Texture—Stratified coarse sandy loam to very gravelly coarse sand. The average texture is sand or loamy sand.

Rock fragments—15 to 35 percent, mainly pebbles. Individual strata have from 5 to 55 percent rock fragments.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent.

Other features—Weakly cemented lenses and durinodes are in some pedons.

Xine series

Depth class: Moderately deep.

Drainage class: Well drained.

Permeability: Moderately rapid.

Runoff: High.

Landform: Mountains.

Parent material: Residuum and colluvium derived from shale and limestone.

Slope range: 15 to 30 percent slopes.

Elevation: 7,500 to 8,600 feet.

Mean annual precipitation: 14 to 16 inches.

Mean annual air temperature: 42 to 44 degrees F.

Frost-free period: 70 to 90 days.

Native plants: Bluebunch wheatgrass, muttongrass, mountain big sagebrush, and antelope bitterbrush.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Aridic Calcixerolls

Typical pedon: Xine very gravelly loam, in an area of Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 15 percent pebbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) very 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 and fine interstitial and tubular pores; 40 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

A2—2 to 10 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; many very fine and fine roots; common very fine and fine tubular pores; 45 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

- Bk1—10 to 18 inches; pale brown (10YR 6/3) very cobbly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; few medium tubular pores; few fine secondary calcium carbonate filaments, and concretions around rock fragments; 25 percent pebbles, 20 percent cobbles, and 5 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bk2—18 to 35 inches; pale brown (10YR 6/3) very cobbly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine and fine tubular pores; common distinct secondary calcium carbonate filaments, and concretions around rock fragments; 25 percent pebbles and 20 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Cr—35 inches; soft, weathered, fractured limestone.

Type location: White Pine County, Nevada; about 6 miles west of Uhalde Well, in the Butte Mountains; in an unsectionalized area about 0.6 mile west and 3.6 miles north of the northeast corner of sec. 6, T.20 N., R.60 E.; 39 degrees, 41 minutes, 32 seconds north latitude and 115 degrees, 15 minutes, 46 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in late fall through early summer, dry mid-summer through mid-fall. Aridic bordering on xeric soil moisture regime.

Soil temperature: 44 to 46 degrees F.

Mollic epipedon thickness: 7 to 14 inches.

Depth to paralithic contact: 20 to 40 inches.

Depth to calcic horizon: 7 to 25 inches.

Carbonates: 25 to 40 percent calcium carbonate equivalent. (less than 20 millimeter fraction)

Other features: Secondary calcium carbonate increases with depth.

Particle size control section:

Clay content—10 to 18 percent.

Rock fragments—35 to 60 percent, mainly cobbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist, some pedons have thin A1 horizons with dry value of 6.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Effervescent—Slightly effervescent to strongly effervescent.

Bk horizons:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Very cobbly loam or very cobbly sandy loam.

Reaction—Moderately alkaline or strongly alkaline.

Structure—Subangular blocky or is massive.

Consistence—Soft or slightly hard dry, nonsticky to moderately sticky and nonplastic to moderately plastic.

Identifiable secondary calcium carbonates—Few to common threads, filaments and masses.

Yobe series

Depth class: Very deep.

Drainage class: Somewhat poorly drained.

Permeability: Moderately slow.

Runoff: Very low.

Landform: Basin floors.

Parent material: Lacustrine deposits derived from mixed rock sources.

Slope range: 0 to 2 percent.

Elevation: 5,900 to 5,950 feet.

Mean annual precipitation: 4 to 8 inches.

Mean annual air temperature: 51 to 57 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Alkali sacaton, alkali cordgrass, sedge, basin wildrye, black greasewood, and basin big sagebrush.

Taxonomic class: Fine-silty, mixed, superactive, calcareous, mesic Aeric Halaquepts

Typical pedon: Yobe silt loam, in an area of map unit 2020, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inch; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, medium and coarse roots; and few fine tubular pores; very few ½ by 1½ inch calcium carbonate nodules; violently effervescent; very strongly alkaline (pH 9.4); abrupt smooth boundary.

A2—3 to 11 inch; light gray (10YR 7/2) silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine medium and coarse roots; and few fine tubular pores; very few ½ by 1½ inch calcium carbonate nodules; violently effervescent; very strongly alkaline (pH 9.4); abrupt smooth boundary.

Bt—11 to 18 inches; light gray (10YR 7/2) silty clay loam, light brownish gray (10YR 6/2) moist; moderate medium prismatic structure parting to strong fine subangular blocky; slightly hard, friable, very sticky and moderately plastic; few fine, medium, and coarse roots; few fine and medium tubular pores; few faint clay films on faces of peds; violently effervescent; very strongly alkaline (pH 9.6); gradual wavy boundary.

C1—18 to 26 inches; pale yellow (2.5Y 8/2) silt loam, light brownish gray (2.5Y 6/2) moist; common medium prominent yellowish brown (10YR 5/4) mottles; weak medium prismatic structure parting to strong fine subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; few fine roots; few fine and medium tubular pores; violently effervescent; very strongly alkaline (pH 9.6); gradual wavy boundary.

C2—26 to 47 inches; pale yellow (2.5Y 8/2) loam, light brownish gray (2.5Y 6/2) moist; common medium prominent dark yellowish brown (10YR 4/4) mottles; massive; soft, very friable, slightly sticky and slightly plastic; few fine roots; few fine tubular pores; violently effervescent; very strongly alkaline (pH 9.6); gradual wavy boundary.

C3—47 to 60 inches; pale yellow (2.5Y 8/2) loam, light brownish gray (2.5Y 6/2) moist; massive; soft, very friable, slightly sticky and slightly plastic; few fine roots; few fine tubular pores; violently effervescent; very strongly alkaline (pH 9.6).

Type location: Lincoln County, Nevada; about 1.6 miles northeast of Geyser Ranch, 130 feet off the dirt road; 1,150 feet west and 1,485 feet north of the southeast corner of section 7, T.9 N., R.66 E.; USGS Mount Grafton NE 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, 9 seconds north latitude and 114 degrees, 36 minutes, 19 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The water table is at 3 to 4 feet for one month or more during most years and the capillary fringe moistens the soil to within at least 30 inches of the surface.

Soil temperature: 47 to 52 degrees F.

Exchangeable sodium: SAR greater than 13, decreasing with depth below 20 inches.

Soil profile: Hue—10YR, 2.5Y or 5Y, Value—6, 7 or 8 dry; 4, 5 or 6 moist, Chroma—2 or 3, dry or moist.

Calcium carbonate equivalent: 5 to 10 percent in the material less than 2 mm.

Carbonates: Strongly effervescent to violently effervescent.

Other features: Secondary calcium carbonate nodules range from very few to common in most subhorizons.

Particle size control section:

Texture—Stratified very fine sandy loam to silt clay loam. When mixed has less than 15 percent sand coarser than very fine sand and 18 to 25 percent clay.

A horizon:

Reaction—Strongly alkaline or very strongly alkaline.

C horizon:

Structure—Prismatic parting to subangular, or is massive.

Consistence—Soft or slightly hard, dry, very friable or friable, moist and nonsticky to very sticky and nonplastic to moderately plastic, wet.

Reaction—Slightly alkaline to very strongly alkaline.

Yody series

Depth class: Moderately deep to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: High.

Landform: Fan remnants.

Parent material: Alluvium derived from volcanic rocks.

Slope range: 2 to 8 percent.

Elevation: 5,900 to 7,200 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 47 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Thurber's needlegrass, Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Haploxeralfic Argidurids

Typical pedon: Yody gravelly sandy loam in an area of Western White Pine County, Area, Nevada, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots in the lower 2 inches; many very fine and fine vesicular pores; 15 percent pebbles; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bt1—4 to 6 inches; pale brown (10YR 6/3) gravelly sandy clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, and medium roots; common very fine and fine tubular and interstitial pores; common faint clay films on faces of peds and lining pores; 15 percent pebbles; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bt2—6 to 14 inches; light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, fine, and medium roots; common very fine and fine tubular pores; common faint clay films on faces of peds and lining pores; 15 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

Bt3—14 to 24 inches; light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine, fine, and medium roots; common very fine and fine tubular pores; common faint clay films on faces of peds and lining pores; 30 percent pebbles; moderately alkaline (pH 8.2); gradual smooth boundary.

Btk—24 to 30 inches; light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very, fine, and medium roots; common very fine and fine tubular pores; few faint clay films on faces of peds and lining pores; few distinct secondary calcium carbonate concretions around rock fragments; 30 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bkq—30 to 36 inches; very pale brown (10YR 8/2) gravelly sandy loam, light gray (10YR 7/2) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; weakly cemented with secondary silica; few distinct secondary calcium carbonate concretions around rock fragments; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqkm—36 to 60 inches; very pale brown (10YR 7/4) cemented material, yellowish brown (10YR 5/4) moist; massive; 2 to 3 inch thick layers strongly cemented by secondary silica with strata are extremely hard and extremely firm, and are root-limiting; continuous brittle matrix weakly cemented by secondary calcium carbonate and secondary silica; hard, firm and brittle, nonsticky and nonplastic; few very fine roots in cracks; few very fine tubular pores; 40 percent pebbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: White Pine County, Nevada; about 2 miles southwest of Preston; about 1,300 feet east and 1,350 feet south of the northwest corner of sec. 26, T.12 N., R.61 E.; 38 degrees, 52 minutes, 33 seconds north latitude and 115 degrees, 5 minutes, 12 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer and fall. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to base of argillic horizon: 14 to 30 inches.

Depth to calcic horizon: 14 to 30 inches.

Depth to strongly cemented duripan: 30 to 40 inches.

Particle size control section:

Clay content—20 to 35 percent.

Rock fragments—Averages 15 to 35 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as andesite, dacite, and rhyolite.

A horizon:

Value—6 or 7 dry.

Chroma—2 or 3 dry, 3 or 4 moist.

Other features—Commonly has polygonal surface morphology with few to many vesicular pores.

Bt and Btk horizons:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy clay loam, gravelly sandy clay loam, or gravelly clay loam.

Consistence—Slightly hard or hard dry, friable or firm moist, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—1 to 12.

Calcium carbonate equivalent—1 to 5 percent.

Other features—Contains more than 35 percent sand.

Bkq horizons:

Value—6 through 8 dry.

Chroma—2 through 4, dry or moist.

Texture—Gravelly loam, gravelly sandy loam, or gravelly loamy sand.

Clay content—5 to 10 percent.

Rock fragments—15 to 35 percent.

Consistence—Slightly hard or hard, dry, very friable to firm moist, nonsticky or slightly sticky and nonplastic or slightly plastic, wet.

Reaction—Moderately alkaline or strongly alkaline.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—1 to 12.

Calcium carbonate equivalent—5 to 10 percent.

Other features—Subhorizons have common (5 to 10 percent) identifiable secondary calcium carbonate concretion on rock fragments.

Yotes series

Depth class: Very deep.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very low.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 2 to 8 percent.

Elevation: 5,400 to 7,000 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 45 to 47 degrees F.

Frost-free period: 100 to 120 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Yotes gravelly ashy sandy loam, in an area of map unit 1230, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 15 percent pebbles.

A1—0 to 4 inches; brown (10YR 5/3) gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; few very fine tubular pores; 15 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); gradual smooth boundary.

A2—4 to 12 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak medium and coarse subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and common fine roots; common very fine tubular pores; strongly effervescent; 20 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

Bk—12 to 21 inches; pale brown (10YR 6/3) gravelly ashy loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine through coarse roots; common fine tubular pores; 20 percent pebbles; few secondary calcium carbonate concretions on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bkq1—21 to 41 inches; pale brown (10YR 6/3) gravelly ashy sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, firm and brittle, nonsticky and nonplastic; few medium roots; few fine tubular pores; 50 percent durinodes; 30 percent pebbles; many secondary calcium carbonate concretions around rock fragments and pendants on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bkq2—41 to 60 inches; very pale brown (10YR 8/2) gravelly ashy sandy loam, very pale brown (10YR 7/3) moist; massive; hard, firm and brittle, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 50 percent durinodes; 18 percent pebbles; many secondary calcium carbonate concretions around rock fragments and pendants on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; about 15 miles northwest of Atlanta; about 1,700 feet north and 2,200 feet west of the southeast corner of section 11, T.9 N., R.67 E.; USGS Indian Springs Knoll 7.5 minute topographic quadrangle; 38 degrees, 39 minutes, 08 seconds north latitude and 114 degrees, 25 minutes, 30 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall and intermittently moist for 10 to 20 days cumulative between July and September due to convection storms. Aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 9 to 15 inches.

Depth to base of cambic horizon: 17 to 25 inches.

Depth to horizons with durinodes: 17 to 25 inches.

Volcanic glass content: 40 to 60 percent in the 0.2 to 2.0 mm fraction.

Particle size control section:

Clay content—Averages 5 to 18 percent.

Rock fragments—Averages 15 to 35 percent, mainly fine (2 to 5 mm diameter) pebbles. Lithology of fragments are volcanic rocks such as welded tuff and rhyolite.

A horizons:

- Value—4 or 5 dry, 2 or 3 moist.
- Chroma—2 or 3, dry or moist.
- Reaction—Neutral to moderately alkaline.
- Effervescence—Noneffervescent to strongly effervescent.
- Organic matter content—1 or 2 percent.
- Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Bk horizon:

- Value—5 or 6 dry, 3 or 4 moist.
- Chroma—3 or 4, dry or moist.
- Texture—Gravelly ashy loam or gravelly ashy sandy loam.
- Reaction—Moderately alkaline or strongly alkaline.
- Effervescence—Strongly effervescent or violently effervescent.
- Calcium carbonate equivalent—1 to 5 percent.
- Other features—This horizon has slightly higher clay content than the overlying horizon and is a cambic horizon.

Bkq horizons:

- Value—5 through 8 dry, 4 through 7 moist.
- Chroma—2 through 4, dry or moist.
- Texture—Gravelly ashy sandy loam or gravelly ashy loam.
- Durinodes—30 to 50 percent.
- Rupture resistance—Some pedons have a matrix which is firm and brittle when moist.
- Reaction—Moderately alkaline or strongly alkaline.
- Calcium carbonate equivalent—1 to 5 percent.

Zafod series

- Depth class:* Moderately deep to a duripan.
- Drainage class:* Well drained.
- Permeability:* Moderately rapid or rapid.
- Runoff:* High.
- Landform:* Fan remnants.
- Parent material:* Alluvium derived from quartzite and limestone.
- Slope range:* 2 to 8 percent.
- Elevation:* 5,950 to 6,550 feet.
- Mean annual precipitation:* 8 to 10 inches.
- Mean annual air temperature:* 45 to 49 degrees F.
- Frost-free period:* 100 to 120 days.
- Native plants:* Indian ricegrass and Wyoming big sagebrush.

Taxonomic class: Loamy-skeletal, mixed, active, mesic Xereptic Haplodurids

Typical pedon: Zafod very gravelly sandy loam, in a map unit of 4032, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 60 percent pebbles and 2 percent cobbles.

A—0 to 7 inches; grayish brown (10YR 5/2) very gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular block structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, and common medium roots; common very fine interstitial pores; 40 percent pebbles and 5 percent cobbles; slightly effervescent; slightly alkaline (pH 7.7); clear smooth boundary.

Bk1—7 to 11 inches; brown (10YR 5/3) gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine interstitial pores; 25 percent pebbles and 5 percent cobbles; common (5 percent) fine and medium

- (1 to 3 mm) secondary calcium carbonate concretions around rock fragments; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bk2—11 to 16 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; moderate very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine interstitial pores; 25 percent pebbles and 5 percent cobbles; common (15 percent) fine and medium (1 to 3 mm) secondary calcium carbonate concretions around rock fragments; violently effervescent; strongly alkaline (pH 8.7); clear smooth boundary.
- 2Bqk—16 to 24 inches; pale brown (10YR 6/3) extremely gravelly coarse sandy loam, yellowish brown (10YR 5/4) moist; moderate very fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; common very fine interstitial pores; 60 percent pebbles and 5 percent cobbles of which 60 percent are detached pan fragments; many (30 percent) fine through coarse (1 to 10 mm) secondary calcium carbonate concretions around rock fragments and secondary calcium carbonate and silica pendants on the bottom of rock fragments; violently effervescent; strongly alkaline (pH 8.8); very abrupt smooth boundary.
- 3Bqkm—24 to 34 inches; light gray (10YR 7/2) cemented material, yellowish brown (10YR 5/4) moist; massive; very hard, very firm; moderately and strongly cemented by secondary silica and secondary calcium carbonate; few roots in fractures; very abrupt wavy boundary.
- 4C—34 to 60 inches; light yellowish brown (10YR 6/4) very gravelly coarse sandy loam, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine interstitial pores; 50 percent pebbles and 5 percent cobbles; few (2 percent) secondary calcium carbonate concretions around rock fragments; slightly effervescent; moderately alkaline (pH 8.2).

Type location: Lincoln County, Nevada; about 10 feet from old highway road, near Highway 93, northeast of Grassy Mountain; USGS Grassy Mountain 7.5 minute quadrangle; 38 degrees, 22 minutes, 20 seconds north latitude and 114 degrees, 37 minutes, 42 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist late fall through early summer, dry late July through September except for 10 to 20 days cumulative between July and September due to convection storms. Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Ochric epipedon thickness: 3 to 9 inches.

Depth to calcic horizon: 3 to 9 inches.

Depth to duripan: 20 to 40 inches.

Particle size control section:

Clay content—5 to 15 percent.

Rock fragments—Averages 35 to 70 percent, mainly pebbles. Lithology of fragments are granite, quartz monzonite, some limestone, and detached pieces of duripan.

A horizon:

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Slightly effervescent or strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Bk horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 5 dry, 3 through 6 moist.

Texture—Gravelly sandy loam or gravelly coarse sandy loam.

Clay content—5 to 15 percent.

Rock fragments—15 to 35 percent.

Consistence—Nonplastic or slightly plastic.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—5 to 15 percent.

Other features—Some pedons contain up to 10 percent durinodes.

2Bqk horizon:

Value—6 through 8 dry, 4 through 7 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly coarse sandy loam, extremely gravelly coarse sandy loam, or very cobbly coarse sandy loam.

Rock fragments—35 to 70 percent, mainly detached pan fragments.

Structure—Subangular, angular blocky, or massive.

Consistence—Firm to very friable moist, nonsticky or slightly sticky and nonplastic or slightly plastic, wet.

Calcium carbonate equivalent—10 to 25 percent.

3Bqkm horizon:

Value—7 or 8 dry, 4 through 7 moist.

Chroma—2 through 4, dry or moist.

4C horizon:

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly sandy loam, gravelly coarse sandy loam, very gravelly coarse sand or very gravelly coarse sandy loam.

Clay content—2 to 15 percent.

Rock fragments—15 to 60 percent, mainly pebbles.

Consistence—Loose to very hard dry, and loose to very firm, moist.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent.

Calcium carbonate equivalent—5 to 25 percent.

Zimbob series

Depth class: Very shallow and shallow.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Very high.

Landform: Hills and mountains.

Parent material: Residuum and colluvium derived from limestone and dolomite.

Slope range: 8 to 30 percent.

Elevation: 5,800 to 8,800 feet.

Mean annual precipitation: 12 to 16 inches.

Mean annual air temperature: 45 to 48 degrees F.

Frost-free period: 90 to 110 days.

Native plants: Indian ricegrass, needleandthread, and black sagebrush.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

Typical pedon: Zimbob very gravelly sandy loam, in an area of map unit 1291, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 45 percent pebbles and 5 percent cobbles.

A—0 to 2 inch; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate very thick platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and common fine roots; many very fine and fine vesicular and interstitial pores; 50 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.3); clear smooth boundary.

Bw—2 to 5 inches; light gray (10YR 7/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and few medium roots; common very

fine and fine interstitial pores; 35 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bk—5 to 11 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine, medium, and coarse roots; common very fine and fine interstitial pores; common distinct secondary calcium carbonate concretions around rock fragments and common distinct secondary calcium carbonate pendants on bottom of rock fragments; 40 percent pebbles; violently effervescent; strongly alkaline (pH 8.7); very abrupt wavy boundary.

R—11 inches; fractured limestone.

Type location: Lincoln County, Nevada; about 1,000 feet north of Shingle Pass road and 1 mile west of Shingle Spring; USGS Shingle Pass 7.5 minute topographic quadrangle; 38 degrees, 22 minutes, 14 seconds north latitude and 114 degrees, 57 minutes, 08 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry summer and fall; aridic moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 4 to 14 inches to a lithic contact.

Reaction: Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent: 35 to 55 percent in the less than 2 millimeter fraction; 50 to 70 percent in the less than 20 millimeter fraction.

Control section:

Clay content—10 to 18 percent.

Rock fragments—Averages 35 to 50 percent, mainly pebbles. Lithology of fragments is limestone or dolomite.

A horizon:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Strongly effervescent or violently effervescent.

Bw horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly loam or very gravelly sandy loam.

Consistence—Soft or slightly hard dry, very friable or friable moist.

Bk horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly loam or very gravelly sandy loam.

Identifiable secondary calcium carbonate—Few or common distinct or prominent masses and pendant on the bottom of rock fragments.

Zoda series

Depth class: Moderately deep to a duripan.

Drainage class: Well drained.

Permeability: Moderate.

Runoff: Medium.

Landform: Fan remnants.

Parent material: Alluvium derived from welded tuff.

Slope range: 0 to 8 percent.

Elevation: 4,850 to 6,550 feet.

Mean annual precipitation: 8 to 10 inches.

Mean annual air temperature: 46 to 52 degrees F.

Frost-free period: 100 to 130 days.

Native plants: Indian ricegrass, needleandthread, and Wyoming big sagebrush.

Taxonomic class: Ashy, glassy, mesic Haploxeralfic Argidurids

Typical pedon: Zoda gravelly ashy sandy loam in an area of map unit 1150, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 5 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak thin and medium platy structure; soft, friable, nonsticky and nonplastic; common very fine, fine and medium roots; common very fine tubular pores; 20 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt—5 to 15 inches; brown (7.5YR 5/4) gravelly ashy sandy clay loam, brown (7.5YR 4/4) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine and medium roots; common fine and medium tubular pores; common faint clay films lining pores; 20 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Btk—15 to 24 inches; light brown (7.5YR 6/4) gravelly ashy sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; common fine and medium tubular pores; common faint clay films lining pores; few distinct secondary calcium carbonate concretions on bottom of rock fragments; 15 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bqkm1—24 to 32 inches; very pale brown (10YR 7/3) cemented material, brown (7.5YR 5/4) moist; massive; very hard, very firm; few very fine roots; weakly cemented by secondary silica with common strongly cemented lenses; violently effervescent; moderately alkaline (pH 8.4); clear irregular boundary.

Bqkm2—32 to 60 inches; very pale brown (10YR 8/2) cemented material, pinkish gray (7.5YR 6/2) moist; massive; extremely hard, extremely firm; strongly cemented by secondary silica; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lincoln County, Nevada; approximately 8 miles southwest of Atlanta; 4,700 feet north and 3,000 feet west of the southeast corner of section 5, T.6 N., R.67 E.; USGS Horse Corral Pass 7.5 minute topographic quadrangle; 38 degrees, 24 minutes, 55 seconds north latitude and 114 degrees, 28 minutes, 45 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and fall and intermittently moist for 10 to 20 days cumulative between July and September from convection storms. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to secondary carbonates: 14 to 30 inches.

Depth to duripan: 20 to 40 inches.

Reaction: Slightly alkaline or moderately alkaline.

Particle size control section:

Clay content—20 to 27 percent.

Rock fragments—15 to 35 percent, mainly pebbles.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent—0 to 5 percent in the material less than 2 mm.

Btk horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate—5 to 15 percent in the material less than 2 mm.

Bqkm horizons:

Hue—10YR or 7.5YR.

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4, dry or moist.

Cementation—Continuously weakly cemented; subhorizons are weakly cemented to strongly cemented. Cylindrical durinodes in a cemented matrix are common.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

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 the Cooperative Extension Service.

The average yields per acre available from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service 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 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.

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".

Rangeland and Grazeable Woodland Resource Management

Chris Jasmine, Rangeland Management Specialist, Natural Resource Conservation Service, helped write this section.

Rangeland, within this report, is considered a "kind of land" rather than a particular kind of land use. Rangelands 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 rangelands are intricately related to each other and are often directly affected by rangeland management actions. Because of the interrelation between rangeland resources, it is appropriate that rangeland managers consider all resource values when planning range improvements.

About 98 percent of the land in the survey area is rangeland. Livestock grazing is the principle agricultural use of rangelands. 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 rangelands within the survey area are administered by the Bureau of Land Management.

Rangeland Health

Three assessment tools, similarity index, trend, and rangeland health evaluation, 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.

Mining has been, and still is the major industrial use of rangelands in the survey area and has played an important role in the history of this area. During the mining booms of the late 1800's, herds of cattle, sheep, oxen, horses, and burros, were brought to Lincoln County to power and feed the mining communities. Heavy grazing pressure during these boom-periods depleted native stands of forage over much of the survey area.

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 about 10 inches of average annual precipitation are very slow to recovery 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 rangelands in the survey area today is improved from what was commonplace in the early 1900's.

Rangeland Management

Good rangeland management can improve present range health and productivity, while preventing accelerated erosion. Proper management of rangeland is dependent upon many factors: season of grazing use; the kind of grazing animal; the intensity and distribution of grazing; and the range resource potential. Multiple use management of rangelands to meet present and future needs requires extensive knowledge of the range 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 rangeland evaluation and management.

Range management requires knowledge of the kinds of soils and of the historic potential plant communities these soils can support in a given area. It also requires an evaluation of the present range condition. Range condition is determined by comparing the present plant community with the natural potential plant community on a particular range site. The more closely the existing community resembles the potential plant community, the higher the range condition. Range condition is an ecological rating only. It does not have a specific meaning that pertains to the present plant community for a given use. The range condition rating alone does not indicate whether the present plant community is improving or deteriorating in relation to its potential. Trend in range condition is a measure of the direction of change in range condition. Present range condition is a reflection of the accumulated effects of past use; range trend is an expression of the effects of current use. Once potential plant communities have been identified and present range condition determined, trend can be monitored over time to evaluate whether management objectives are being met.

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 greatly reduced or even eliminated 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 extensive invasion of cheatgrass (an introduced annual grass), on sagebrush-grass rangelands 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.

Soil Site Correlation

During the course of this soil survey, 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 rangelands 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.

Ecological Site Descriptions

An ecological site is a distinctive kind of rangeland that differs from other ecological sites in its ability to produce a characteristic natural plant community. 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.

Table 5, "Rangeland Productivity and Characteristic Plant Communities" shows each soil and contrasting inclusion, 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, and 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. The amount vegetation that can be used as forage depends on the kinds of grazing animals, the grazing season, and availability of forage.

Total production is the amount of vegetation that can be expected to grow annually on well managed rangeland 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. The total production of understory vegetation includes the herbaceous plants and the leaves, twigs, and fruit of woody plants up to a height of 4.5 feet. It is expressed in pounds per acre of air-dry vegetation in favorable, normal, and unfavorable years. In a favorable year, soil moisture is above average during the optimum part of the growing season; in a normal year, soil moisture is average; and in an unfavorable year, it is below average.

Also included in each table is a site number. A more detailed description of each site, identified by number, can be found in the local NRCS Field Office Technical Guide.

Plant Communities of Lincoln County, Nevada, North Part

Lincoln County is in the southeastern portion of the Basin and Range Physiographic Province. Major plant associations within the soil survey area typify the general zonation of vegetation common to the Great Basin Region. Valley floors and lower piedmont slope landscapes are dominated by salt-desert shrub plant communities. On landscape positions above the salt-desert shrub zone, sagebrush-grass plant communities are prevalent where mean annual precipitation is 8 inches or more. Also present above the 9 inch precipitation zone are areas of juniper woodlands and above 11 inches of precipitation are pinyon woodlands. Some of the higher elevations within the survey area have small amounts white fir and ponderosa pine woodlands.

Salt-Desert Shrub Plant Communities

Salt-desert shrub communities are normally a reflection of either a climatically dry environment where mean annual precipitation is less than 8 inches or of physiologically dry soil conditions. High concentrations of salts that interfere with plant uptake of soil moisture can create physiologically dry soil conditions. Most map units at the lower elevations support plant communities of the salt-desert shrub zone in the survey area. Representative shrubs of these salt-desert shrub communities are shadscale, bud sagebrush, black greasewood, winterfat, spiny hopsage, Nevada ephedra and Douglas rabbitbrush. Common grasses include galleta, Indian ricegrass, needleandthread, King's desertgrass, desert needlegrass and bottlebrush squirreltail.

Salt-desert shrub plant communities in the survey area vary from stands dominated by a single shrub species to relatively heterogeneous mixtures of shrubs and grasses. The vegetation of these communities is usually sparse and vegetative cover is normally less than 20 percent. The naturally sparse cover of most salt-desert shrub plant communities leave them susceptible to wind and water erosion. Soil stability of the interspaces between plants in salt-desert shrub communities is provided by surface pavements of rock fragments or by biological soil crust (algae and fungi) at the soil surface. Either of these soil protective features can be damaged by livestock trailing or off-road vehicle traffic.

Salt-desert shrub plant 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. Due to the inherent environmental harshness of the salt-desert shrub zone, manipulation of vegetation and re-vegetation projects are not usually advisable.

Within the salt-desert shrub zone are low-lying areas that receive extra moisture. Many of these sites receive additional moisture as run-in from higher landscape positions and are subject to shallow, low-velocity overflow during periods of runoff. Black greasewood, basin big sagebrush, fourwing saltbush, quailbush and basin wildrye are important plants on these floodplain sites. 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. Mule deer can be found on these basin wildrye communities year-round as can pygmy rabbits and northern harriers.

Other plant communities in these soil map units that reflect extra moisture conditions occur adjacent to valley floor playas. These sites have a high water table during periods of runoff. Black greasewood, shadscale, inland saltgrass, and basin wildrye are plants characteristic of these sites with high water tables.

Plant communities dominated by black greasewood provide thermal cover for many species of wildlife but have limited value for big game. The spines and coarse structure of black greasewood also offer protective cover to nesting birds and small mammals. 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.

Some valleys also include areas of playas. As snow melts in the spring, runoff water drains into these valley floor basins. This runoff water is retained on the playas for short periods providing nesting and feeding habitat for some water birds due to the presence of fairy shrimp. Playas containing water during the spring offer important resting-places for migrating waterfowl. Sand dunes formed by the deposition of wind blown sediment are sometimes found on the northeast side of playas in the survey area. Although of limited extent, partially stabilized sand dunes can offer important habitat for both predator and prey vertebrate wildlife. Kangaroo rats are commonly found on sand dune areas as are the kit fox and bobcat.

Some of the soils in the valleys are suitable for growing adapted crops if irrigation water is available. Leaving vegetative cover along fence rows and ditch banks can provide food and cover for birds and mammals.

Sagebrush-Grass Plant Communities

Sagebrush-grass plant communities within the survey area are represented in the mid-elevations, valleys, and mountains. Average annual precipitation at these elevations is between 8 and 14 inches.

Black sagebrush, Wyoming big sagebrush, and to a lesser extent, basin big sagebrush are the dominant woody sagebrush taxa of lower elevations in the survey area. Perennial grasses are potentially the dominant herbaceous vegetation of sagebrush-grass plant communities in the survey area. Galleta, Indian ricegrass, needleandthread, bottlebrush squirreltail, and Sandberg bluegrass are important grasses associated with 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 due to 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, elk and pronghorn antelope. 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 antelope, 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 rangelands 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.

Singleleaf Pinyon and Utah Juniper Plant Communities

Singleleaf pinyon and Utah juniper plant communities are prevalent at intermediate elevations of the sagebrush-grass zone. Dominant understory shrubs include mountain big sagebrush, mountainmahogany and black sagebrush. Prevalent understory grasses are Indian ricegrass, bottlebrush squirreltail, Sandberg's bluegrass, muttongrass, and needlegrass.

During the mining booms of the late 1800's, much of Lincoln County's woodland resource was harvested for use in ore processing, as mine props, or burned as domestic firewood. Large portions of the pinyon-juniper woodland in Lincoln County were harvested and therefore support trees less than 150 years of age, representing re-growth after the early mining boom period. In these woodland areas that were harvested there are trees younger than 150 years, but the old ax-cut stumps prove that the site historically supported woodlands.

Settlement in the survey area has also 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 pinyon-juniper woodlands and associated rangelands have occurred. Original woodlands that were not harvested for the mining industry have become denser and adjacent sagebrush-grass communities have been invaded by these conifers.

Pinyon and juniper woodlands are generally low in productivity at elevations where juniper is the dominant tree species. At higher elevations, the woodland is more productive and pinyon is dominant in the overstory.

In the pristine environment, stands of pinyon and juniper woodland were restricted to very rocky soils and landscape positions that prevented naturally occurring wildfires. Young pinyon and juniper trees 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 restricted 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 pinyon and juniper to develop.

Traditional products of the pinyon-juniper woodlands include firewood, fence posts, pine nuts and Christmas trees. 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 values.

Managing pinyon and juniper woodland for sustained yield is a relatively new concept. Pinyon and 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.

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 pinyon-juniper woodland. Invasion of pinyon or juniper into sagebrush-grass rangelands 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 or cliffrose 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.

High Elevation Plant Communities

The uppermost elevations of the survey area (8,000 to 10,000 feet) typically support high elevation sagebrush-grass-plant communities. Average annual precipitation ranges between 14 to over 18 inches at these elevations within the survey area. Mountain big sagebrush and low sagebrush dominate the overstory canopy of these plant communities. Understory grasses include prairie junegrass, muttongrass, spike-fescue, needlegrass, bluegrass, basin wildrye, and bluebunch wheatgrass. Mountain grazing species such as snowberry and serviceberry, as well as antelope bitterbrush, are common in the shrub overstory. Curlleaf mountainmahogany stands are found at the highest elevations on mountain summits and upper side slopes. Also located at the high elevations are stands of white fir, and some pine species.

Plant communities within these map units are potentially very productive and normally respond rapidly to management. 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 the high elevation sagebrush-grass zone. 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 elk use these high elevation plant communities for summer range. A patchwork of dense stands of mountain grazing 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 naturally occurring meadow areas within the mid- and upper elevation sagebrush-grass communities that have been heavily invaded by big sagebrush. The sagebrush is robbing moisture from these meadows and if removed, water quantity and the duration of water flow will increase as the grassland aspect of meadow vegetation returns. 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 relatively 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 Plan for Nevada and Portions of Eastern California, 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.

More than half of all 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 desert 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, elk and pronghorn antelope 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 antelope 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".

Salt Desert Shrub: Wildlife Considerations

Salt-desert shrub communities are home to a wide variety of non-game species including whiptail lizards, antelope ground squirrels, loggerhead shrikes and the Pacific rattlesnake. Plant communities dominated by shadscale or winterfat and associated forbs and grasses provide important winter range areas for pronghorn antelope. On ranges occupied by pronghorn antelope, fencing can be detrimental to pronghorn migration, as these animals commonly do not jump. Fences constructed with the lower wire high enough for antelope to crawl under reduce the impact on antelope movement (bottom wire should be at least 16" from ground). Where feasible, routing of fence lines on antelope ranges should be planned to cause the least disruption to traditional antelope travel lanes. Livestock water developments are beneficial to antelope and other wildlife including birds and bats. The water developments should contain escape ramps for birds and be free of obstructions for bats to drink on the fly. Few mule deer utilize salt-desert shrub communities and these communities are generally considered unimportant to deer management. Feral horses will use these salt-desert shrub communities during the winter.

Sagebrush-Grass: Wildlife Considerations

Although these sagebrush-grass communities may provide transitional range in the spring to pronghorn antelope moving from winter to summer ranges, plant communities dominated by big sagebrush are not heavily used by pronghorns. Livestock water developments are beneficial to wildlife, especially deer and antelope, if the water supply is available when they occupy the area. Sage grouse may use these areas during severe winter periods to feed on sagebrush that has not been snow-covered. Heavy snow at higher elevations will move chukar partridge onto these communities where feed is available. Low elevation sagebrush-grass communities within the survey area are used primarily by mule deer and feral horses as winter range or as transitional range in the spring. 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.

Stringer meadows occur along spring-fed stream channels in the pinyon-juniper zones. Meadow vegetation also occurs on the periphery of seeps and springs. 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.

Pinyon-Juniper Woodlands: Wildlife Considerations

Non-game wildlife species associated with these woodlands are the bushy-tailed woodrat, the blue-grey gnat-catcher, pinyon jay, and the American kestrel. Mule deer will also use these woodland communities for thermal cover and many species of small mammals and birds are associated with the juniper woodlands within the survey area. Rocky Mountain elk are found throughout the survey area and they rely heavily on the pinyon-juniper plant communities for most of their life cycles. The pinyon-juniper areas provide them with the feed and cover that they need to survive year round.

Brush and tree treatments such as chainings in these pinyon-juniper areas can greatly benefit wildlife. By removing some of the encroached pinyon-juniper, under story 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 chaining results. These chained areas make great habitat for elk, small mammals and birds.

High Elevation: Wildlife Considerations

High elevation plant communities supply many mule deer and elk with exceptional summer range. The high elevation basins also support many small mammal and bird species.

There tends to be much diversity at these high elevations since there is an increased amount of precipitation. Seeding in these areas are not usually needed as there is usually a sufficient seed source available after any type of disturbance.

Mule deer and 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 protect these springs can be beneficial to both wildlife and livestock.

Rangeland Seeding

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. Re-vegetation 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. Livestock water developments can be beneficial to wildlife, especially deer, elk and pronghorns, if the water supply is available when they occupy the area. Water developments are also beneficial for birds and bats. The developments should contain escape ramps for birds and be free of obstructions for bats to drink on the fly. Forage for wildlife, such as pronghorn antelope, 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 seeding discussed in this survey can be obtained by contacting the local Natural Resource Conservation Service, at: www.nv.nrcs.usda.gov, or the local Cooperative Extension office, www.unce.unr.edu.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

The titles of the tables (available as online reports only) described in this section are:

"Dwellings and Small Commercial Buildings"

"Roads and Streets, Shallow Excavations, and Lawns and Landscaping"

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 described in this section 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.

Construction Materials

The titles of the tables described in this section are:

Table 7, "Source of Sand and Gravel"

"Source of Reclamation Material, Roadfill, and Topsoil" (available as an online report only)

These tables give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table "Source of Sand and Gravel," only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In the table "Source of Reclamation Material, Roadfill, and Topsoil," the rating class terms are *good*, *fair*, and *poor*. 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 reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering properties, physical and chemical properties, and pertinent soil and water features.

Engineering Soil Properties

The table described in this section gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in the table "Engineering Index Test Data."

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.

Physical Soil Properties

The table described in this section shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, 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 linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in micrometers per second, 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, including rock fragments, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension

(33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (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 six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor 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. The groups are described in the "National Soil Survey Handbook (USDA-NRCS, 2003)," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

The table described in this section 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

The table described in this section gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A.—Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B.—Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C.—Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D.—Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to

50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

The table described in this section 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 chanter.
- 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 asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand.

Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter.

Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

- Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.
- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.
- Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.
- Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.
- Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.
- Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.
- Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.
- Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
- Erosion (geologic).** Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
- Erosion (accelerated).** Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.
- Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.
- Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.
- Extrusive rock.** Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.
- Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.
- Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.
- Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

- Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.
- Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.
- Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.
- Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.
- Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.
- Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.
- Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.
- Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.
- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop (agronomy).** A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Hard to reclaim (in tables).** Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
- Head out.** To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2very 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 replaced 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 Caliente, Nevada)

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		Average number of days with 0.01 inch or more	Average snow fall
							less than	more than			
January	46.7	18.9	32.8	65	-4	12	0.94	0.23	1.55	2	4.5
February	53.5	23.8	38.7	73	3	59	1.04	0.22	1.78	2	2.1
March	60.1	29.3	44.7	79	15	173	1.40	0.20	2.63	4	1.0
April	68.3	34.6	51.4	86	21	344	0.71	0.10	1.27	2	0.0
May	77.7	42.4	60.1	95	28	611	0.74	0.21	1.27	2	0.0
June	88.9	50.2	69.5	103	37	881	0.37	0.00	0.63	0	0.0
July	95.1	56.8	75.9	106	37	1,089	0.72	0.13	1.16	1	0.0
August	93.0	55.5	74.2	104	42	1,044	1.05	0.27	1.82	2	0.0
September	84.9	46.6	65.7	98	33	760	0.78	0.11	1.30	2	0.1
October	72.9	35.4	54.2	91	19	441	0.83	0.11	1.44	2	0.0
November	57.7	25.8	41.7	77	9	113	0.82	0.15	1.39	1	0.8
December	48.3	18.7	33.5	66	-1	12	0.48	0.08	0.82	1	1.6
Yearly:											
Average	70.6	36.5	53.5	---	---	---	---	---	---	---	---
Extreme	109	-19	---	106	-8	---	---	---	---	---	---
Total	---	---	---	---	---	5,538	9.88	7.33	11.81	21	10.1

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 Pioche, Nevada)

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		Average number of days with 0.01 inch or more	Average snow fall
							less than	more than			
January	42.3	21.7	32.0	60	0	17	1.52	0.27	2.75	3	6.5
February	46.7	24.4	35.5	64	2	34	1.64	0.25	2.62	3	4.8
March	52.0	29.2	40.6	69	11	104	1.80	0.24	3.35	4	1.5
April	60.0	34.8	47.4	78	18	250	0.94	0.12	1.65	2	1.0
May	68.9	43.4	56.1	86	25	498	1.17	0.33	1.95	3	0.0
June	0.0	52.2	66.1	94	34	780	0.55	0.00	0.94	1	0.1
July	86.8	58.7	72.8	99	46	1,014	0.94	0.20	1.53	2	0.0
August	85.0	57.6	71.3	96	45	971	1.28	0.44	2.09	3	0.0
September	76.6	49.8	63.2	90	32	696	0.96	0.10	1.67	2	0.0
October	65.2	39.3	52.3	82	18	390	1.11	0.31	1.83	2	0.6
November	51.1	28.7	39.9	69	9	105	0.95	0.21	1.45	2	1.2
December	44.3	22.4	33.4	61	3	17	1.03	0.21	1.83	2	3.9
Yearly:											
Average	63.2	38.5	50.9	---	---	---	----	----	----	---	---
Extreme	102	-15	---	101	-3	---	----	----	----	---	---
Total	---	---	---	---	---	4,875	13.91	8.26	17.95	29	19.6

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 Sunnyside, Nevada)

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		Average number of days with 0.01 inch or more	Average snow fall
							less than	more than			
January	44.6	16.2	30.4	62	-9	6	0.72	0.24	1.18	3	5.4
February	49.5	21.5	35.5	69	-3	26	0.77	0.20	1.23	2	2.3
March	56.0	26.8	41.4	73	8	98	1.06	0.22	1.89	3	2.7
April	64.6	31.7	48.1	82	17	253	0.76	0.08	1.38	1	1.5
May	73.7	39.4	56.5	91	25	467	1.04	0.28	1.76	3	0.1
June	84.3	47.3	65.8	98	32	736	0.57	0.06	0.87	1	0.0
July	91.1	53.7	72.4	100	39	946	0.77	0.12	1.12	2	0.0
August	88.9	51.5	70.2	99	38	895	1.11	0.43	1.70	2	0.0
September	80.3	43.1	61.7	93	26	625	1.04	0.21	1.75	2	0.0
October	68.7	32.3	50.5	86	14	316	1.07	0.25	1.88	2	0.3
November	54.2	23.0	38.6	74	2	70	0.68	0.14	1.03	2	2.1
December	46.2	16.5	31.4	63	-5	6	0.53	0.05	0.97	1	2.5
Yearly:											
Average	66.8	33.6	50.2	---	---	---	----	----	----	---	---
Extreme	104	-20	---	101	-12	---	----	----	----	---	---
Total	---	---	---	---	---	4,443	10.11	7.22	12.02	24	16.9

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 2.--FREEZE DATES IN SPRING AND FALL
(Recorded in the period 1961-90 at Caliente, Nevada)

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 1	May 16	May 25
2 years in 10 later than--	April 23	May 10	May 19
5 years in 10 later than--	April 9	April 27	May 8
First freezing temperature in fall:			
1 year in 10 earlier than--	October 13	October 2	September 20
2 years in 10 earlier than--	October 19	October 8	September 26
5 years in 10 earlier than--	October 31	October 20	October 8

TABLE 2.--FREEZE DATES IN SPRING AND FALL
(Recorded in the period 1961-90 at Pioche, Nevada)

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 3	May 15	May 29
2 years in 10 later than--	April 27	May 10	May 24
5 years in 10 later than--	April 15	May 1	May 13
First freezing temperature in fall:			
1 year in 10 earlier than--	October 16	September 30	September 25
2 years in 10 earlier than--	October 22	October 7	October 1
5 years in 10 earlier than--	November 3	October 22	October 12

TABLE 2.--FREEZE DATES IN SPRING AND FALL
(Recorded in the period 1966-90 at Sunnyside, Nevada)

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 12	May 27	June 20
2 years in 10 later than--	May 6	May 21	June 11
5 years in 10 later than--	April 25	May 8	May 25
First freezing temperature in fall:			
1 year in 10 earlier than--	September 26	September 16	September 8
2 years in 10 earlier than--	October 3	September 22	September 12
5 years in 10 earlier than--	October 15	October 2	September 21

TABLE 3.--GROWING SEASON
(Recorded in the period 1971-00 at Caliente, Nevada)

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	180	155	134
8 years in 10	191	165	143
5 years in 10	213	184	160
2 years in 10	236	204	177
1 year in 10	247	214	187

TABLE 3.--GROWING SEASON
(Recorded in the period 1971-00 at Pioche, Nevada)

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	169	145	121
8 years in 10	179	155	130
5 years in 10	197	174	147
2 years in 10	216	193	164
1 year in 10	226	203	173

TABLE 3.--GROWING SEASON
(Recorded in the period 1971-00 at Sunnyside, Nevada)

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	154	126	97
8 years in 10	165	134	107
5 years in 10	184	151	127
2 years in 10	204	168	147
1 year in 10	215	177	158

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1001	Eastmore-Armespan-Ursine association-----	3,462	0.2
1003	Eastmore-Escalante association-----	19,752	1.0
1010	Armespan-Escalante association-----	26,430	1.4
1011	Armespan very gravelly sandy loam, 2 to 15 percent slopes-----	3,368	0.2
1020	Geer-Slaw association-----	2,691	0.1
1021	Geer-Penoyer association-----	12,420	0.6
1022	Cliffdown-Geer association-----	4,956	0.3
1029	Blackcan-Veet-Armespan association-----	5,481	0.3
1030	Ursine-Escalante association-----	23,336	1.2
1031	Ursine-Geer association-----	181	*
1032	Ursine-Mezzer-Armespan association-----	75,623	3.9
1033	Ursine-Cliffdown association-----	15,620	0.8
1034	Ursine association-----	74,201	3.9
1035	Ursine association, cool-----	10,772	0.6
1036	Ursine-Mezzer association-----	4,188	0.2
1040	Chuckmill-Qwynn association-----	20,590	1.1
1042	Chuckridge-Cath-Sevenmile association-----	3,754	0.2
1043	Chuckridge-Handpah association-----	6,040	0.3
1050	Ursine-Escalante-Lien association-----	3,214	0.2
1053	Ursine, moderately sloping-Mezzer-Ursine association-----	21,434	1.1
1060	Gravier-Geer association-----	13,174	0.7
1071	Koyen sand, 2 to 8 percent slopes-----	3,953	0.2
1073	Koyen-Colval association-----	2,100	0.1
1074	Koyen-slaw-Penoyer association-----	6,904	0.4
1075	Koyen-Penoyer association-----	10,780	0.6
1076	Koyen-Geer association-----	10,592	0.6
1080	Slaw silt loam, 0 to 2 percent slopes-----	856	*
1081	Slaw-Sycomat association-----	1,861	*
1084	Slaw-Penoyer association-----	1,477	*
1085	Colval-Slaw association-----	27,892	1.4
1086	Slaw-Colval association-----	13,692	0.7
1087	Glotrain-Koyen association-----	21,751	1.1
1088	Radol-Eaglepass-Monarch association-----	1,159	*
1090	Kyler-Eaglepass-Rock outcrop association-----	27,151	1.4
1091	Kyler-Eaglepass-Rock outcrop association, warm-----	33,972	1.8
1093	Kyler-Logring-Rock outcrop association-----	3,640	0.2
1095	Kyler-Rock outcrop-Amtoft association-----	12,436	0.6
1096	Kyler-Lodar association-----	353	*
1100	Linoyer-Heist association-----	18,178	0.9
1103	Patter-Sevenmile association-----	2,271	0.1
1104	Colval-Penoyer association-----	3,609	0.2
1106	Patter-Linco association-----	1,965	0.1
1110	Nuhelen-Chubard-Rock outcrop association-----	19,831	1.0
1111	Nuhelen-Farepeak association-----	775	*
1113	Farepeak-Slockey-Schoolmarm association-----	2,449	0.1
1114	Slockey-Schoolmarm-Rock outcrop association-----	728	*
1115	Nuhelen-Rock outcrop-Newvil association-----	1,774	*
1120	Watoopah-Chuckmill association-----	2,416	0.1
1130	Handpah-Chuckridge-Sevenmile association-----	10,617	0.6
1131	Handpah-Watoopah-Littleailie association-----	6,981	0.4
1132	Handpah-Veet association-----	20,207	1.0
1133	Lojet-Qwynn-Littleailie association-----	27,261	1.4
1134	Lojet-Chuckmill-Sevenmile association-----	31,738	1.6
1138	Littleailie-Lien-Sevenmile association-----	22,506	1.2
1140	Cowgil-Yody-Fax association-----	3,752	0.2
1150	Zoda-Cath association-----	31,959	1.7
1151	Watoopah-Zoda-Sevenmile association-----	29,004	1.5
1154	Qwynn-Ragnel association-----	4,894	0.3
1160	Silent-Koyen association-----	1,433	*
1170	Haunchee-Hardol-Xine association-----	392	*
1171	Haunchee-Hardzem-Rock outcrop association-----	4,705	0.2
1172	Haunchee-Wardbay-Hardzem association-----	8	*

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1180	Eoj-McIvey association-----	2,052	0.1
1190	Pookaloo-Cavehill-Rock outcrop association-----	12,745	0.7
1200	Urmafot-Bobs-Paliner association-----	4,410	0.2
1210	Paliner very gravelly loam, 2 to 15 percent slopes-----	10,968	0.6
1211	Paliner-Urmafot-Urmafot, very shallow association-----	30,591	1.6
1212	Paliner-Yody-Broland association-----	158	*
1215	Ursine-Jarab association-----	5,980	0.3
1220	Lien-Devildog association-----	1,502	*
1230	Yotes-Sevenmile association-----	39,106	2.0
1231	Newvil-Nevu-Ponyspring association-----	852	*
1232	Nevu-Ponyspring-Okayview association-----	41,008	2.1
1240	Sycomat-Escalante-Gravier association-----	16,353	0.8
1270	Heusser-Wambolt association-----	4,028	0.2
1280	Badena very cobbly loam, 2 to 8 percent slopes-----	5,040	0.3
1291	Zimbob-Pookaloo-Cavehill association-----	15,310	0.8
1300	Pioche-Birchcreek-Cropper association-----	10,718	0.6
1307	Kyler-Amtoft-Eaglepass association-----	2,233	0.1
1310	Duffer-Kolda association-----	871	*
1320	Broland-Yody association-----	1,066	*
1330	Amelar-Eoj-Hardol association-----	229	*
1340	Heist association-----	14,251	0.7
1350	Heist-Chuffa association-----	14,388	0.7
1359	Devildog-Gardenvalley-Qwynn association-----	9,395	0.5
1360	Veet-Armespan association-----	748	*
1362	Amtoft-Kyler association-----	1,259	*
1370	Amtoft-Kyler association, warm-----	4,175	0.2
1380	Cavehill-Rock outcrop association-----	12,507	0.6
1381	Ursine-Armespan association-----	5,750	0.3
1382	Ursine-Medburn association-----	475	*
1384	Cavehill-Haunchee association-----	631	*
1386	Ursine-Eastmore association-----	5,285	0.3
1388	Eastmore-Summermute-Ursine association-----	3,897	0.2
1400	Suak-Segura-McIvey association-----	83	*
1430	Hardzem-Hackwood-Guiser association-----	3,482	0.2
1435	Haunchee-Rock outcrop association-----	1,951	0.1
1470	Tybo-Koyen association-----	1,473	*
1473	Tybo-Leo association-----	4,987	0.3
1475	Treadwell-Veet association-----	3,974	0.2
1485	Monarch-Highup-Eganroc association-----	4,435	0.2
1501	Radol-Monarch-Highup association-----	14,998	0.8
1502	Lodar-Logring-Rock outcrop association-----	6,191	0.3
1510	Ursine-Jarab-Pamsdel association-----	14,016	0.7
1525	Ubehebe-Penelas-Kyler association-----	2,486	0.1
1700	Garfan-McIvey association-----	2,469	0.1
1701	Suak-Chen-Rock outcrop association-----	2,372	0.1
1730	Qwynn-Devildog association-----	5,167	0.3
1731	Cath-Chuckridge association-----	15,491	0.8
1732	Cath-Watcoopah-Escalante association-----	5,673	0.3
1733	Cath-Watcoopah-Escalante association, warm-----	10,866	0.6
1810	Boxspring-Rock outcrop association-----	49	*
1880	Richinde-Pintwater-Rock outcrop association-----	49	*
1881	Richinde-Richinde, steep-Rock outcrop association-----	7,385	0.4
1882	Richinde association-----	1,345	*
1885	Richinde-Chubard-Richinde, very stony association-----	17,826	0.9
1900	Eaglepass-Rock outcrop-Amtoft association-----	30,359	1.6
1910	Radol-Lodar association, warm-----	5,734	0.3
1920	Eganroc-Rock outcrop-Radol association-----	1,126	*
1922	Lodar-Eaglepass-Radol association-----	814	*
1930	Nuhelen-Chubard-Rock outcrop association, warm-----	4,334	0.2
1940	Chubard, stony-Rock outcrop association-----	11,607	0.6
1942	Richinde-Chubard association-----	8,493	0.4
1945	Chubard-Richinde association, cool-----	12,869	0.7
1946	Chubard, very stony-Chubard-Rock outcrop association-----	3,121	0.2

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1948	Farepeak-Schoolmarm-Rock outcrop association-----	5,669	0.3
1949	Richinde-Chubard association, cool-----	5,654	0.3
1955	Treadwell-Chuckridge-Handpah association-----	5,277	0.3
1957	Malmesa-Nevoayer-Treadwell association-----	5,636	0.3
1958	Nevoayer-Lomoine-Rock outcrop association-----	2,370	0.1
1959	Rock outcrop-Rubble land-Chubard association-----	1,859	*
1960	Devildog association-----	2,921	0.2
1989	Gabbvally-Rock outcrop association-----	203	*
1990	Richinde-Rock outcrop association-----	11,522	0.6
2000	Playas-----	681	*
2010	Chuffa association-----	28,363	1.5
2020	Yobe complex-----	3,993	0.2
2030	Teebone-Yobe association-----	18,127	0.9
2041	Kolda-Duffer association-----	2,557	0.1
2050	Ragnel very gravelly loamy sand, 2 to 8 percent slopes-----	2,819	0.1
2060	Crestline-Veet association-----	21,073	1.1
2061	Crestline-Linoyer association-----	1,410	*
2071	Chuffa-Linoyer-Playas complex-----	23,785	1.2
2100	Glotrain-Devildog association-----	10,498	0.5
2120	Sevenmile-Devildog association-----	2,583	0.1
2122	Lojet-Littleailie association-----	6,666	0.3
2123	Littleailie-Lojet association-----	42,573	2.2
2280	Granquin-Schoolmarm-Starflyer association-----	1,263	*
2283	Rock outcrop-Chubard-Richinde association-----	840	*
2284	Starflyer association-----	399	*
2285	Schoolmarm-Starflyer association-----	7,664	0.4
2286	Schoolmarm-Rock outcrop association-----	246	*
2287	Granquin-Rock outcrop-Schoolmarm association-----	1,105	*
2288	Schoolmarm-Granquin-Rock outcrop association-----	3,953	0.2
2290	Richinde-Chubard-Rock outcrop association-----	10,413	0.5
2292	Chubard-Richinde association-----	25,141	1.3
2296	Chubard association-----	5,632	0.3
2297	Chubard-Richinde-Rock outcrop association, steep-----	22,262	1.2
2298	Chubard-Richinde association, steep-----	30,842	1.6
2299	Chubard-Rock outcrop association, cool-----	4,937	0.3
2301	Stewval-Gabbvally association-----	1,206	*
2302	Chubard-Nuhelen-Rock outcrop association-----	8,753	0.5
2304	Chubard-Rock outcrop association, warm-----	3,406	0.2
2305	Chubard-Littleailie-Devildog association-----	6,256	0.3
2311	Cliffdown gravelly sandy loam, 2 to 15 percent slopes, eroded-----	605	*
2312	Fang-Nyala association-----	866	*
2320	Blackcan association-----	3,333	0.2
3010	Anaud-Cagas-Rock outcrop association-----	10,137	0.5
3036	Kyler-Amtoft, thin surface-Rock outcrop association-----	214	*
3170	Linoyer-Escalante association-----	690	*
3190	Penoyer-Geer association-----	20,165	1.0
3192	Saltydog-Ambush-Panacker association-----	9,644	0.5
3193	Ewelac-Playas association-----	4,755	0.2
3194	Ambush-Panacker-Playas association-----	3,695	0.2
3196	Saltydog-Geer association-----	3,912	0.2
3198	Ambush-Penoyer association-----	5,328	0.3
3221	Rouette-Ursine-Escalante association-----	4,002	0.2
3290	Kunzler-Sycomat association-----	74	*
3409	Devildog-Qwynn-Lojet association-----	6,836	0.4
3411	Watoopah-Cath association-----	4,928	0.3
3412	Watoopah-Devildog-Littleailie association-----	596	*
3416	Watoopah gravelly loamy sand, 0 to 8 percent slopes-----	7,726	0.4
3434	Lodar-Amtoft-Rock outcrop association-----	60	*
3462	Littleailie-Devildog association-----	1,339	*
3466	Littleailie association-----	1,515	*
3580	Kyler-Rock outcrop complex, 15 to 50 percent slopes-----	34,814	1.8
3610	Threedogs-Slaw association-----	399	*
3612	LittleSpring-Bigspring-Greatday association-----	148	*

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
3670	Logring-Kyler-Eaglepass association-----	10,677	0.6
3673	Kyler, very stony-Rock outcrop-Kyler association-----	11,496	0.6
3675	Radol-Rock outcrop-Lodar association-----	7,859	0.4
3700	Leo-Delamar association-----	17,921	0.9
3701	Leo-Tybo association-----	13,532	0.7
3860	Hyzen-Eganroc-Rock outcrop association-----	593	*
3870	Newvil-Chuckmill-Sevenmile association-----	13,831	0.7
3871	Newvil-Sevenmile association-----	2,855	0.1
3880	Nevu-Okayview-Sevenmile association-----	3,695	0.2
3890	Anaud very gravelly loam, 2 to 15 percent slopes-----	3,521	0.2
3892	Slockey-Hamtah-Schoolmarm association-----	6,033	0.3
3894	Schoolmarm-Sevenmile association-----	2,421	0.1
4001	Modem-Newvil-Sevenmile association-----	3,769	0.2
4002	Jarab-Ravendog association-----	12,857	0.7
4011	Radol-Lodar association-----	5,615	0.3
4013	Lodar-Rock outcrop association-----	1,492	*
4014	Lodar-Eaglepass-Rock outcrop association-----	9,943	0.5
4015	Buzztail-Lodar association-----	6,276	0.3
4017	Amtoft-Rock outcrop association-----	3,955	0.2
4018	Eoj-Schoolmarm-McIvey association-----	1,158	*
4020	Schoolmarm-Farepeak-Rock outcrop association-----	9,268	0.5
4022	Schoolmarm-Slockey association-----	13,796	0.7
4024	Slockey-Schoolmarm association-----	14,731	0.8
4030	Rock outcrop-Starflyer association-----	8,880	0.5
4032	Zafod-Sevenmile association-----	4,074	0.2
4035	Highup-Rock outcrop-Eganroc association-----	2,295	0.1
4040	Farepeak-Hamtah-Starflyer association-----	2,823	0.1
5021	Atlanta-Escalante association-----	68	*
	Total-----	1,925,687	100.0

* Less than 0.1 percent.

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1001: Eastmore-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Hiko Peak-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Yelbrick-----	SANDY 5-8 P.Z. (R028AY019NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	needleandthread		10
		UNFAVORABLE	250	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		4
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				spiny hopsage		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1003: Eastmore-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Indian ricegrass needleandthread galleta other perennial grasses sand dropseed other perennial forbs black sagebrush fourwing saltbush other shrubs winterfat		20 15 5 5 5 5 25 5 5 5
Eastmore-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE NORMAL UNFAVORABLE	500 325 150	Indian ricegrass Sandberg bluegrass galleta needleandthread other perennial grasses other perennial forbs black sagebrush other shrubs shadscale winterfat		25 5 5 5 5 5 30 5 5 5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 400	Indian ricegrass galleta bottlebrush squirreltail other perennial grasses other perennial forbs winterfat bud sagebrush other shrubs shadscale		40 5 3 3 2 25 5 5 5
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Indian ricegrass needleandthread galleta other perennial grasses sand dropseed other perennial forbs black sagebrush fourwing saltbush other shrubs winterfat		20 15 5 5 5 5 25 5 5 5
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	basin wildrye Indian ricegrass needleandthread other perennial grasses thickspike wheatgrass other perennial forbs Wyoming big sagebrush winterfat other shrubs		20 10 5 5 5 5 30 10 5
Sycomat-----	LOAMY 5-8 P.Z. (R028AY012NV)	FAVORABLE NORMAL UNFAVORABLE	500 300 200	Indian ricegrass other perennial grasses King's desertgrass galleta other perennial forbs globemallow shadscale Nevada ephedra bud sagebrush greenmolly kochia other shrubs winterfat		15 5 2 2 5 3 40 5 5 5 5 5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1010: Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Annabella-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
1011: Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eastmore-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
1020: Geer-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Slaw-----	SODIC TERRACE 5-8 P.Z. (R028AY024NV)	FAVORABLE	700	alkali sacaton		40
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	inland saltgrass		5
				other perennial grasses		5
				other perennial forbs		5
				black greasewood		25
				other shrubs		5
				shadscale		5
Penoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
Koyen-----	SANDY 5-8 P.Z. (R028AY019NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	needleandthread		10
		UNFAVORABLE	250	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		4
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				spiny hopsage		5
1021: Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	bottlebrush squirreltail		2	
				other perennial forbs		2	
				winterfat		70	
				bud sagebrush		5	
				other shrubs		5	
Koyen-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20	
		NORMAL	700	desert needlegrass		15	
		UNFAVORABLE	450	bush muhly		5	
				galleta		5	
				other perennial grasses		5	
				other perennial forbs		5	
				other shrubs		5	
				spiny hopsage		20	
				Nevada ephedra		5	
				fourwing saltbush		5	
				winterfat		5	
				bud sagebrush		2	
1022: Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40	
		NORMAL	450	galleta		5	
		UNFAVORABLE	300	bottlebrush squirreltail		3	
				other perennial forbs		2	
				winterfat		25	
				bud sagebrush		5	
				fourwing saltbush		5	
				other shrubs		5	
				other perennial grasses		3	
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40	
		NORMAL	450	galleta		5	
		UNFAVORABLE	300	bottlebrush squirreltail		3	
				other perennial forbs		2	
				winterfat		25	
				bud sagebrush		5	
				fourwing saltbush		5	
				other shrubs		5	
				other perennial grasses		3	
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40	
		NORMAL	500	galleta		5	
		UNFAVORABLE	300	bottlebrush squirreltail		2	
				other perennial grasses		2	
				other perennial forbs		4	
				globemallow		2	
				fourwing saltbush		20	
				winterfat		10	
				other shrubs		5	
				bud sagebrush		2	
				spiny hopsage		2	
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10	
		NORMAL	700	Sandberg bluegrass		6	
		UNFAVORABLE	500	other perennial grasses		6	
				galleta		2	
				other perennial forbs		5	
				big sagebrush		30	
				desert peach		15	
				other shrubs		10	
				rubber rabbitbrush		10	
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	bottlebrush squirreltail		2	
				other perennial forbs		2	
				winterfat		70	
				bud sagebrush		5	
				other shrubs		5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1029: Blackcan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Armespan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Blackcan-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1030: Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Annabella-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Lien-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028AY035NV)	FAVORABLE	450	Indian ricegrass		25
		NORMAL	300	Thurber's needlegrass		20
		UNFAVORABLE	150	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				Utah juniper		2
1031: Ursine-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1032: Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Mezzer-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Armespan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Barfan-----	BARREN FAN 8-10 P.Z. (R029XY092NV)	FAVORABLE	250	Indian ricegrass		5
		NORMAL	175	galleta		5
		UNFAVORABLE	100	needleandthread		5
				other perennial grasses		5
				Sandberg bluegrass		3
				other perennial forbs		5
				pigmy sagebrush		60
				other shrubs		5
				other trees		1
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
1033: Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
	Nevada ephedra		2			
	winterfat		2			
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Candelaria-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry		Forest	Range		
			weight					
			Lb/acre		Pct	Pct		
Armespan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30		
		NORMAL	500	needleandthread		10		
		UNFAVORABLE	250	other perennial grasses		5		
				Sandberg bluegrass		3		
				galleta		2		
				other perennial forbs		5		
				black sagebrush		30		
				other shrubs		5		
				fourwing saltbush		3		
				Nevada ephedra		2		
winterfat		2						
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10		
		NORMAL	700	Sandberg bluegrass		6		
		UNFAVORABLE	500	other perennial grasses		6		
				galleta		2		
				other perennial forbs		5		
				big sagebrush		30		
				desert peach		15		
				other shrubs		10		
				rubber rabbitbrush		10		
1034: Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30		
NORMAL		500	needleandthread		10			
UNFAVORABLE		250	other perennial grasses		5			
			Sandberg bluegrass		3			
			galleta		2			
			other perennial forbs		5			
			black sagebrush		30			
			other shrubs		5			
			fourwing saltbush		3			
			Nevada ephedra		2			
winterfat		2						
Ursine-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15		
		NORMAL	200	needleandthread		10		
		UNFAVORABLE	75	galleta		5		
				other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		40		
				other shrubs		15		
				Nevada ephedra		4		
Armespan-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15		
		NORMAL	200	needleandthread		10		
		UNFAVORABLE	75	galleta		5		
				other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		40		
				other shrubs		15		
				Nevada ephedra		4		
Breko-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Wyoming big sagebrush		30		
		NORMAL	600	Indian ricegrass		25		
		UNFAVORABLE	300	Nevada ephedra		5		
				desert needlegrass		5		
				fourwing saltbush		5		
				needleandthread		5		
				other perennial forbs		5		
				other perennial grasses		5		
				other shrubs		5		
				other trees		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Heist-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
1035: Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Ursine-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Ursine-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
Ursine-----	GRAVELLY BARREN FAN (R028AY007NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	225	needleandthread		10
		UNFAVORABLE	150	galleta		5
				other perennial grasses		5
				bottlebrush squirreltail		3
				Sandberg bluegrass		2
				other perennial forbs		5
				pigmy sagebrush		50
				other shrubs		5
Borvant-----	CALCAREOUS FAN PIEDMONT 10-14 P.Z. (R028AY087NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				wild crab apple		5
				Stansbury cliffrose		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1036: Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				
Ursine-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
other trees		10				
Mezzer-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Ursine-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
Nevada ephedra		4				
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
other shrubs		5				
other perennial grasses		3				
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
1040: Chuckmill-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Qwynn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Patter-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Qwynn-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
Ragnel-----	SANDY 8-10 P.Z. (R028AY005NV)	FAVORABLE	1000	Indian ricegrass		25
		NORMAL	700	needleandthread		15
		UNFAVORABLE	400	other perennial grasses		5
				thickspike wheatgrass		5
				sand dropseed		3
				galleta		2
				western wheatgrass		2
				other perennial forbs		5
				Wyoming big sagebrush		15
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
1042: Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Cath-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
		winterfat		5		
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Yotes-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
		winterfat		5		
Plegomir-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
		Utah juniper		5		
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
1043: Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
		winterfat		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Handpah-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4
Stewval-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R029XY015NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	200	galleta		4
		UNFAVORABLE	100	needleandthread		4
				other perennial grasses		2
				other perennial forbs		5
				Stansbury cliffrose		30
				black sagebrush		20
				Nevada ephedra		5
				other shrubs		5
				other trees		10
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Treadwell-----	SHALLOW COBBLY LOAM (R029XY161NV)	FAVORABLE	400	Indian ricegrass		35
		NORMAL	300	galleta		10
		UNFAVORABLE	200	other perennial grasses		8
				other perennial forbs		5
				spiny menodora		20
				Nevada ephedra		10
				other shrubs		5
1050: Ursine-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Lien-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028AY035NV)	FAVORABLE	450	Indian ricegrass		25	
		NORMAL	300	Thurber's needlegrass		20	
		UNFAVORABLE	150	needleandthread		5	
					other perennial grasses		5
				other perennial forbs		5	
				black sagebrush		25	
				other shrubs		10	
				Utah juniper		2	
Annabella-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20	
		NORMAL	600	needleandthread		20	
		UNFAVORABLE	400	galleta		5	
					other perennial grasses		5
					Sandberg bluegrass		3
					bottlebrush squirreltail		2
					other perennial forbs		5
					Wyoming big sagebrush		20
					other shrubs		5
					spiny hopsage		5
					winterfat		5
Barfan-----	GRAVELLY BARREN FAN (R028AY007NV)	FAVORABLE	350	Indian ricegrass		10	
		NORMAL	225	needleandthread		10	
		UNFAVORABLE	150	galleta		5	
					other perennial grasses		5
					bottlebrush squirreltail		3
					Sandberg bluegrass		2
					other perennial forbs		5
					pigmy sagebrush		50
					other shrubs		5
Ursine-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25	
		NORMAL	325	Sandberg bluegrass		5	
		UNFAVORABLE	150	galleta		5	
					needleandthread		5
					other perennial grasses		5
					other perennial forbs		5
					black sagebrush		30
					other shrubs		5
					shadscale		5
					winterfat		5
1053: Ursine-----	STONY CALCAREOUS HILL (R029XY099NV)	FAVORABLE	600	Indian ricegrass		20	
		NORMAL	400	needleandthread		5	
		UNFAVORABLE	250	other perennial grasses		5	
					galleta		3
					bottlebrush squirreltail		2
					other perennial forbs		5
					black sagebrush		35
					Fremont's mahonia		5
					Nevada ephedra		5
					other shrubs		5
					spiny greasebush		2
		other trees		5			
Mezzer-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30	
		NORMAL	800	desert needlegrass		5	
		UNFAVORABLE	500	galleta		5	
					needleandthread		5
					other perennial grasses		5
					other perennial forbs		3
					desert globemallow		2
					other annual forbs		2
					Wyoming big sagebrush		25
					fourwing saltbush		5
		other shrubs		5			
		winterfat		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
	winterfat		2			
Armespan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
	winterfat		2			
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		5
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4
1060: Gravier-----	COARSE GRAVELLY LOAM 5-8 P.Z. (R028AY018NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	galleta		5
		UNFAVORABLE	300	needleandthread		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				globemallow		2
				shadscale		20
				winterfat		10
				bud sagebrush		5
	other shrubs		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Geer-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
	winterfat		5			
1071: Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
NORMAL		500	galleta		5	
UNFAVORABLE		300	bottlebrush squirreltail		2	
			other perennial grasses		2	
			other perennial forbs		4	
			globemallow		2	
			fourwing saltbush		20	
			winterfat		10	
			other shrubs		5	
	bud sagebrush		2			
	spiny hopsage		2			
Bienfait-----	SANDY 5-8 P.Z. (R029XY012NV)	FAVORABLE	800	Indian ricegrass		50
		NORMAL	500	other perennial grasses		5
		UNFAVORABLE	300	sand dropseed		5
				needleandthread		4
				other perennial forbs		5
				fourwing saltbush		20
	other shrubs		5			
	winterfat		5			
Leo-----	DRY WASH (R029XY041NV)	FAVORABLE	500	other perennial grasses		8
		NORMAL	300	Indian ricegrass		6
		UNFAVORABLE	100	other perennial forbs		10
				rubber rabbitbrush		25
				fourwing saltbush		10
				other shrubs		10
				burrobush		8
				littleleaf horsebrush		8
				Bailey greasewood		6
				Nevada ephedra		4
				wolfberry		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1073: Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
				spiny hopsage		2
Colval-----	DEEP SILTY 5-8 P.Z. (R029XY159NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	300	bottlebrush squirreltail		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Bonneville saltbush		25
				shadscale		20
				greenmolly kochia		10
				other shrubs		5
Woodrow-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Glotrain-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
				other shrubs		5
1074: Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
				spiny hopsage		2
Slaw-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		70
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
					other perennial forbs	
				winterfat		70
				bud sagebrush		5
				other shrubs		5
Koyen-----	SANDY 5-8 P.Z. (R029XY012NV)	FAVORABLE	800	Indian ricegrass		50
		NORMAL	500	other perennial grasses		5
		UNFAVORABLE	300	sand dropseed		5
				needleandthread		4
				other perennial forbs		5
				fourwing saltbush		20
				other shrubs		5
			winterfat		5	
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
			fourwing saltbush		5	
			other shrubs		5	
			other perennial grasses		3	
Ravendog-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
			other shrubs		5	
1075: Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
NORMAL	500	galleta		5		
UNFAVORABLE	300	bottlebrush squirreltail		2		
		other perennial grasses		2		
		other perennial forbs		4		
		globemallow		2		
		fourwing saltbush		20		
		winterfat		10		
		other shrubs		5		
		bud sagebrush		2		
		spiny hopsage		2		
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
			winterfat		70	
			bud sagebrush		5	
			other shrubs		5	
Koyen-----	SANDY 5-8 P.Z. (R029XY012NV)	FAVORABLE	800	Indian ricegrass		50
		NORMAL	500	other perennial grasses		5
		UNFAVORABLE	300	sand dropseed		5
				needleandthread		4
				other perennial forbs		5
				fourwing saltbush		20
				other shrubs		5
			winterfat		5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail other perennial forbs winterfat bud sagebrush fourwing saltbush other shrubs other perennial grasses		3 2 25 5 5 5 3
Slaw-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses other perennial forbs shadscale other shrubs		5 5 70 5
1076: Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail other perennial grasses other perennial forbs globemallow fourwing saltbush winterfat other shrubs bud sagebrush spiny hopsage		2 2 4 2 20 10 5 2 2
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail other perennial forbs winterfat bud sagebrush fourwing saltbush other shrubs other perennial grasses		3 2 25 5 5 5 3
Ambush-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses other perennial forbs shadscale other shrubs		5 5 70 5
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail other perennial forbs winterfat bud sagebrush other shrubs		2 2 70 5 5
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses galleta other perennial forbs big sagebrush desert peach other shrubs rubber rabbitbrush		6 2 5 30 15 10 10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1080: Slaw-----	SODIC TERRACE 5-8 P.Z. (R028AY024NV)	FAVORABLE	700	alkali sacaton		40
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	inland saltgrass		5
				other perennial grasses		5
				other perennial forbs		5
				black greasewood		25
				other shrubs		5
				shadscale		5
Cirac-----	SODIC TERRACE 5-8 P.Z. (R028AY024NV)	FAVORABLE	700	alkali sacaton		40
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	inland saltgrass		5
				other perennial grasses		5
				other perennial forbs		5
				black greasewood		25
				other shrubs		5
				shadscale		5
1081: Slaw-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		40
				black greasewood		25
				bud sagebrush		5
				other shrubs		5
Sycomat-----	LOAMY 5-8 P.Z. (R028AY012NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	King's desertgrass		2
				galleta		2
				other perennial forbs		5
				globemallow		3
				shadscale		40
				Nevada ephedra		5
				bud sagebrush		5
				greenmolly kochia		5
				other shrubs		5
		winterfat		5		
Cirac-----	SODIC TERRACE 5-8 P.Z. (R028AY024NV)	FAVORABLE	700	alkali sacaton		40
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	inland saltgrass		5
				other perennial grasses		5
				other perennial forbs		5
				black greasewood		25
				other shrubs		5
				shadscale		5
Mazuma-----	DROUGHTY SODIC LOAM (R028AY032NV)	FAVORABLE	1000	Indian ricegrass		15
		NORMAL	800	bottlebrush squirreltail		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				spiny hopsage		40
				black greasewood		20
				other shrubs		5
Geer-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Threedogs-----	SALINE FLOODPLAIN (R028AY107NV)	FAVORABLE	1700	basin wildrye		50	
		NORMAL	1200	alkali sacaton		10	
		UNFAVORABLE	900	other perennial grasses		5	
					other perennial forbs		5
				fourwing saltbush		20	
				black greasewood		5	
				other shrubs		5	
1084: Slaw-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5	
		NORMAL	400	bottlebrush squirreltail		5	
		UNFAVORABLE	200	other perennial grasses		5	
					other perennial forbs		5
					shadscale		40
					black greasewood		25
					bud sagebrush		5
			other shrubs		5		
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	bottlebrush squirreltail		2	
					other perennial forbs		2
					winterfat		70
					bud sagebrush		5
			other shrubs		5		
Easychair-----	OUTWASH PLAIN (R029XY048NV)	FAVORABLE	1000	basin wildrye		15	
		NORMAL	800	other perennial grasses		5	
		UNFAVORABLE	400	Indian ricegrass		2	
					other perennial forbs		5
					fourwing saltbush		50
					bud sagebrush		5
					other shrubs		5
					winterfat		5
			greenmolly kochia		3		
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40	
		NORMAL	450	galleta		5	
		UNFAVORABLE	300	bottlebrush squirreltail		3	
					other perennial forbs		2
					winterfat		25
					bud sagebrush		5
					fourwing saltbush		5
			other shrubs		5		
			other perennial grasses		3		
Woodrow-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30	
		NORMAL	800	Indian ricegrass		20	
		UNFAVORABLE	600	needleandthread		5	
					other perennial grasses		5
					western wheatgrass		5
					other perennial forbs		5
					Wyoming big sagebrush		20
						other shrubs	
1085: Colval-----	SILTY PLAIN (R029XY117NV)	FAVORABLE	350	Indian ricegrass		15	
		NORMAL	250	bottlebrush squirreltail		10	
		UNFAVORABLE	100	other perennial grasses		5	
					other perennial forbs		5
					Bonneville saltbush		45
					winterfat		10
			other shrubs		5		
Slaw-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5	
		NORMAL	375	bottlebrush squirreltail		5	
		UNFAVORABLE	200	other perennial grasses		5	
					other perennial forbs		5
			shadscale		70		
			other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Colval-----	DEEP SILTY 5-8 P.Z. (R029XY159NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	300	bottlebrush squirreltail		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Bonneville saltbush		25
				shadscale		20
				greenmolly kochia		10
				other shrubs		5
Slaw-----	SALINE TERRACE (R029XY120NV)	FAVORABLE	350	Indian ricegrass		20
		NORMAL	250	galleta		5
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		4
				greenmolly kochia		45
				shadscale		10
				bud sagebrush		5
				other shrubs		5
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
				spiny hopsage		2
1086: Slaw-----	SALINE TERRACE (R029XY120NV)	FAVORABLE	350	Indian ricegrass		20
		NORMAL	250	galleta		5
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		4
				greenmolly kochia		45
				shadscale		10
				bud sagebrush		5
				other shrubs		5
Slaw-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		70
				other shrubs		5
Colval-----	DEEP SILTY 5-8 P.Z. (R029XY159NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	300	bottlebrush squirreltail		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Bonneville saltbush		25
				shadscale		20
				greenmolly kochia		10
				other shrubs		5
Colval-----	SILTY PLAIN (R029XY117NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	250	bottlebrush squirreltail		10
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		5
				Bonneville saltbush		45
				winterfat		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
	spiny hopsage		2			
1087: Glotrain-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
	spiny hopsage		2			
Glotrain-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
	winterfat		5			
	bud sagebrush		2			
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
	other shrubs		5			
	winterfat		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1088: Radol-----	CALCAREOUS FAN PIEDMONT 10-14 P.Z. (R028AY087NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				wild crab apple		5
				Stansbury cliffrose		3
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasebush		2
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Utah serviceberry	10	
				antelope bitterbrush	10	
				curl-leaf mountain mahogany	10	
				snowberry	10	
				other shrubs	5	
				singleleaf pinyon	5	
Buzztail-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				muttongrass		5
				other shrubs		5
				other trees		2
Rock outcrop---	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Pamsdel-----	LOAMY FAN PIEDMONT (R028AY127NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	650	bluegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		10
				big sagebrush		25
				Stansbury cliffrose		10
				other shrubs		5
				wild crab apple		5
				singleleaf pinyon		2
1090: Kyler-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasebush		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Amtoft-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028AY034NV)	FAVORABLE	600	bluebunch wheatgrass		30
		NORMAL	400	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				needleandthread		3
				Sandberg bluegrass		2
				blue grama		2
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				singleleaf pinyon		3
				Utah juniper		2
				Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE
NORMAL	500	needleandthread				15
UNFAVORABLE	300	galleta				5
		other perennial grasses				5
		sand dropseed				5
		other perennial forbs				5
		black sagebrush				25
		fourwing saltbush				5
		other shrubs				5
winterfat		5				
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
winterfat		5				
1091: Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
other shrubs		15				
Nevada ephedra		4				
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
black sagebrush		5				
other shrubs		5				
ephedra		2				
spiny greasebush		2				
other trees		2				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Wrango-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1093: Kyler-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				ephedra		2
				spiny greasebush		2
				other trees		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Lodar-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Ravendog-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
1095: Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Hardzem-----	F029XY096NV	FAVORABLE	300	muttongrass	15	
		NORMAL	200	other perennial grasses	10	
		UNFAVORABLE	150	Sandberg bluegrass	5	
				Thurber's needlegrass	5	
				bottlebrush squirreltail	5	
				spike fescue	5	
				other perennial forbs	10	
				Utah serviceberry	10	
				other shrubs	10	
				mountain big sagebrush	5	
				white fir	10	
				singleleaf pinyon	5	
1096: Kyler-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasebush		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition				
		Kind of year	Dry weight		Forest	Range			
			Lb/acre		Pct	Pct			
1100: Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10			
		NORMAL	500	bottlebrush squirreltail		5			
		UNFAVORABLE	350	other perennial grasses		5			
				other perennial forbs		5			
				winterfat		55			
				bud sagebrush		5			
				fourwing saltbush		5			
				other shrubs		5			
			Heist-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
					NORMAL	800	Indian ricegrass		10
		UNFAVORABLE			600	needleandthread		5	
						other perennial grasses		5	
	thickspike wheatgrass					5			
	other perennial forbs					5			
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20			
		NORMAL	800	Indian ricegrass		10			
		UNFAVORABLE	600	needleandthread		5			
				other perennial grasses		5			
				thickspike wheatgrass		5			
				other perennial forbs		5			
				Wyoming big sagebrush		30			
				winterfat		10			
				other shrubs		5			
			Medburn-----	SANDY 8-10 P.Z. (R028AY005NV)	FAVORABLE	1000	Indian ricegrass		25
NORMAL	700	needleandthread				15			
UNFAVORABLE	400	other perennial grasses				5			
		thickspike wheatgrass				5			
		sand dropseed				3			
		galleta				2			
		western wheatgrass				2			
		other perennial forbs				5			
		Wyoming big sagebrush				15			
		fourwing saltbush				5			
		other shrubs				5			
		winterfat				5			
Ravendog-----	DRY FLOODPLAIN (R028AY025NV)	FAVORABLE	1800	basin wildrye		50			
		NORMAL	1500	creeping wildrye		10			
		UNFAVORABLE	1100	other perennial grasses		10			
				other perennial forbs		5			
				big sagebrush		15			
			other shrubs		5				
1103: Patter-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20			
		NORMAL	800	Indian ricegrass		10			
		UNFAVORABLE	600	needleandthread		5			
				other perennial grasses		5			
				thickspike wheatgrass		5			
				other perennial forbs		5			
				Wyoming big sagebrush		30			
				winterfat		10			
				other shrubs		5			
			Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
					NORMAL	1000	thickspike wheatgrass		15
					UNFAVORABLE	700	needleandthread		10
	other perennial grasses					5			
	other perennial forbs					5			
	basin big sagebrush					20			
	other shrubs		10						

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
	other shrubs		5			
Badlands-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Linco-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Baberwit-----	GRAVELLY BARREN FAN (R028AY007NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	225	needleandthread		10
		UNFAVORABLE	150	galleta		5
				other perennial grasses		5
				bottlebrush squirreltail		3
				Sandberg bluegrass		2
				other perennial forbs		5
				pigmy sagebrush		50
	other shrubs		5			
1104: Colval-----	DEEP SILTY 5-8 P.Z. (R029XY159NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	300	bottlebrush squirreltail		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Bonneville saltbush		25
	shadscale		20			
	greenmolly kochia		10			
	other shrubs		5			
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
	other shrubs		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40		
		NORMAL	450	galleta		5		
		UNFAVORABLE	300	bottlebrush squirreltail		3		
				other perennial forbs		2		
				winterfat		25		
				bud sagebrush		5		
				fourwing saltbush		5		
				other shrubs		5		
				other perennial grasses		3		
Slaw-----	SODIC FLAT (R029XY076NV)	FAVORABLE	450	alkali sacaton		5		
		NORMAL	250	inland saltgrass		5		
		UNFAVORABLE	100	other perennial grasses		5		
				other perennial forbs		5		
						black greasewood		55
						other shrubs		5
						saltbush		5
						seepweed		5
				shadscale		5		
Cliffdown-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40		
		NORMAL	450	galleta		5		
		UNFAVORABLE	300	bottlebrush squirreltail		3		
				other perennial forbs		2		
						winterfat		25
						bud sagebrush		5
						fourwing saltbush		5
						other shrubs		5
				other perennial grasses		3		
1106: Patter-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20		
		NORMAL	800	Indian ricegrass		10		
		UNFAVORABLE	600	needleandthread		5		
				other perennial grasses		5		
						thickspike wheatgrass		5
						other perennial forbs		5
						Wyoming big sagebrush		30
						winterfat		10
				other shrubs		5		
Linco-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20		
		NORMAL	500	needleandthread		15		
		UNFAVORABLE	300	galleta		5		
				other perennial grasses		5		
						sand dropseed		5
						other perennial forbs		5
						black sagebrush		25
						fourwing saltbush		5
				other shrubs		5		
				winterfat		5		
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20		
		NORMAL	800	Indian ricegrass		10		
		UNFAVORABLE	600	needleandthread		5		
				other perennial grasses		5		
						thickspike wheatgrass		5
						other perennial forbs		5
						Wyoming big sagebrush		30
						winterfat		10
				other shrubs		5		
Ravendog-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30		
		NORMAL	1000	thickspike wheatgrass		15		
		UNFAVORABLE	700	needleandthread		10		
				other perennial grasses		5		
						other perennial forbs		5
				basin big sagebrush		20		
				other shrubs		10		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Baberwit-----	GRAVELLY BARREN FAN (R028AY007NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	225	needleandthread		10
		UNFAVORABLE	150	galleta		5
				other perennial grasses		5
				bottlebrush squirreltail		3
				Sandberg bluegrass		2
				other perennial forbs		5
				pigmy sagebrush		50
				other shrubs		5
		1110: Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Chubard-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lien-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028AY035NV)	FAVORABLE	450	Indian ricegrass		25
		NORMAL	300	Thurber's needlegrass		20
		UNFAVORABLE	150	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
		Utah juniper		2		
1111: Nuhelen-----	F029XY071NV	FAVORABLE	400	Indian ricegrass	5	
		NORMAL	250	other perennial grasses	5	
		UNFAVORABLE	150	Sandberg bluegrass	3	
				goldenweed	25	
				other perennial forbs	5	
				Stansbury cliffrose	15	
				desert bitterbrush	15	
				black sagebrush	5	
				green ephedra	5	
				other shrubs	5	
				Utah juniper	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Farepeak-----	F028AY099NV	FAVORABLE	700	bluebunch wheatgrass	10	
		NORMAL	500	muttongrass	10	
		UNFAVORABLE	300	other perennial grasses	10	
				other perennial forbs	10	
				mountain big sagebrush	25	
				other shrubs	10	
				antelope bitterbrush	5	
				curlleaf mountainmahogany	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Farepeak-----	F029XY065NV	FAVORABLE	500	Sandberg bluegrass	5	
		NORMAL	300	muttongrass	5	
		UNFAVORABLE	200	other perennial grasses	5	
				buckwheat	5	
				other perennial forbs	5	
				Wyoming big sagebrush	35	
				desert bitterbrush	20	
				other shrubs	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1113: Farepeak-----	F028AY099NV	FAVORABLE	700	bluebunch wheatgrass	10	
		NORMAL	500	muttongrass	10	
		UNFAVORABLE	300	other perennial grasses	10	
				other perennial forbs	10	
				mountain big sagebrush	25	
				other shrubs	10	
				antelope bitterbrush	5	
				curlleaf mountainmahogany	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass	5	
				needleandthread	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
antelope bitterbrush	10					
other shrubs	5					
other trees	5					
Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	bluegrass	5	
				other perennial grasses	5	
				other perennial forbs	15	
				low sagebrush	30	
				antelope bitterbrush	5	
other shrubs	5					
other trees	2					
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Hamtah-----	GRAVELLY LOAM 12-14 P.Z. (R028AY066NV)	FAVORABLE	1200	bluebunch wheatgrass		20		
		NORMAL	900	Thurber's needlegrass		10		
		UNFAVORABLE	700	bluegrass		5		
				other perennial grasses		5		
				other perennial forbs		5		
				antelope bitterbrush		30		
				mountain big sagebrush		10		
				other shrubs		5		
				other trees		3		
Starflyer-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35		
		NORMAL	500	Indian ricegrass		20		
		UNFAVORABLE	300	other perennial grasses		5		
				other perennial forbs		5		
				mountain big sagebrush		20		
				muttongrass		5		
				other shrubs		5		
				other trees		2		
1114: Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30		
		NORMAL	700	Thurber's needlegrass		5		
		UNFAVORABLE	450	muttongrass		5		
				needleandthread		5		
				other perennial grasses		5		
				other perennial forbs		5		
				mountain big sagebrush		20		
				antelope bitterbrush		10		
				other shrubs		5		
				other trees		5		
Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20		
		NORMAL	350	Thurber's needlegrass		10		
		UNFAVORABLE	200	bluegrass		5		
				other perennial grasses		5		
				other perennial forbs		15		
				low sagebrush		30		
				antelope bitterbrush		5		
				other shrubs		5		
				other trees		2		
Rock outcrop----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
Udel-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20		
		NORMAL	1800	muttongrass		5		
		UNFAVORABLE	1200	other perennial grasses		5		
				Columbia needlegrass		2		
				Letterman needlegrass		2		
				other perennial forbs		5		
				curl-leaf mountain mahogany		40		
				mountain big sagebrush		10		
				other shrubs		5		
				other trees		5		
Hackwood-----	F028AY078NV	FAVORABLE	1000	mountain brome	10			
		NORMAL	700	nodding brome	10			
		UNFAVORABLE	400	slender wheatgrass	10			
				other perennial grasses	5			
						Fendler's meadowrue	5	
						other perennial forbs	5	
						Oregongrape	5	
						Utah serviceberry	5	
						other shrubs	5	
						snowberry	5	
						willow	5	
				Engelmann's spruce	10			
				quaking aspen	10			
				white fir	5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1115: Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Newvil-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				other trees		1
Nevu-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5
Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Ravendog-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30		
		NORMAL	1000	thickspike wheatgrass		15		
		UNFAVORABLE	700	needleandthread		10		
				other perennial grasses		5		
				other perennial forbs		5		
				basin big sagebrush		20		
				other shrubs		10		
1120: Watoopah-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
				winterfat		5		
		Chuckmill-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
				NORMAL	325	galleta		5
UNFAVORABLE	150			other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		45		
				other shrubs		10		
				Utah juniper		5		
Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
				winterfat		5		
		Biblesprings----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
				NORMAL	600	needleandthread		20
UNFAVORABLE	400			galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
				winterfat		5		
Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)			FAVORABLE	800	Indian ricegrass		20
				NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
				winterfat		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1130: Handpah-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Ratleflat-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Ravendog-----	DRY FLOODPLAIN (R028AY025NV)	FAVORABLE	1800	basin wildrye		50
		NORMAL	1500	creeping wildrye		10
		UNFAVORABLE	1100	other perennial grasses		10
				other perennial forbs		5
				big sagebrush		15
				other shrubs		5
1131: Handpah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Watoopah-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Littleaillie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Annabella-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
Wyoming big sagebrush		20				
other shrubs		5				
1132: Handpah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
other shrubs		4				
Utah juniper		1				
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Annabella-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Handpah-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4
1133: Lojet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Qwynn-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Littleailie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Gardenvalley----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
	other shrubs		5			
	winterfat		5			
1134: Lojet-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Chuckmill-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
	winterfat		10			
	other shrubs		5			
Devildog-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
	winterfat		5			
Qwynn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
	winterfat		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Sevenmile-----	DRY FLOODPLAIN (R028AY025NV)	FAVORABLE	1800	basin wildrye		50		
		NORMAL	1500	creeping wildrye		10		
		UNFAVORABLE	1100	other perennial grasses		10		
				other perennial forbs		5		
				big sagebrush		15		
				other shrubs		5		
1138: Littleaillie-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20		
		NORMAL	500	needleandthread		15		
		UNFAVORABLE	300	galleta		5		
				other perennial grasses		5		
				sand dropseed		5		
				other perennial forbs		5		
				black sagebrush		25		
				fourwing saltbush		5		
				other shrubs		5		
				winterfat		5		
								Indian ricegrass
						Thurber's needlegrass		20
				needleandthread		5		
				other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		25		
				other shrubs		10		
				Utah juniper		2		
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20		
		NORMAL	800	Indian ricegrass		10		
		UNFAVORABLE	600	needleandthread		5		
				other perennial grasses		5		
				thickspike wheatgrass		5		
				other perennial forbs		5		
				Wyoming big sagebrush		30		
				winterfat		10		
				other shrubs		5		
Handpah-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
				winterfat		5		
Jarab-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25		
		NORMAL	600	Thurber's needlegrass		15		
		UNFAVORABLE	400	Indian ricegrass		5		
				muttongrass		5		
				other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		30		
				other shrubs		5		
				other trees		1		
Ravendog-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30		
		NORMAL	1000	thickspike wheatgrass		15		
		UNFAVORABLE	700	needleandthread		10		
				other perennial grasses		5		
				other perennial forbs		5		
				basin big sagebrush		20		
				other shrubs		10		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
1140: Cowgil-----	LOAMY 8-10 P.Z. (R028BY010NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		15		
		UNFAVORABLE	400	bottlebrush squirreltail		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				other perennial forbs		5		
				globemallow		2		
				Wyoming big sagebrush		30		
				other shrubs		5		
				rabbitbrush		3		
Yody-----	GRAVELLY CLAY 10-12 P.Z. (R028BY086NV)	FAVORABLE	800	Thurber's needlegrass		25		
		NORMAL	600	Indian ricegrass		7		
		UNFAVORABLE	350	needleandthread		7		
						other perennial grasses		5
						Canby bluegrass		3
						Sandberg bluegrass		2
						other perennial forbs		5
						crag aster		3
						longleaf hawksbeard		2
						other shrubs		5
						spiny hopsage		5
						Wyoming big sagebrush		25
						other trees		1
Fax-----	LOAMY 10-12 P.Z. (R028BY007NV)	FAVORABLE	1000	Thurber's needlegrass		30		
		NORMAL	800	bluebunch wheatgrass		15		
		UNFAVORABLE	600	needleandthread		5		
						other perennial grasses		5
						bluegrass		3
						Indian ricegrass		2
						other perennial forbs		5
						longleaf hawksbeard		3
						arrowleaf balsamroot		2
						big sagebrush		15
						antelope bitterbrush		5
						other shrubs		3
						other trees		2
Pyrat-----	LOAMY 8-10 P.Z. (R028BY010NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		15		
		UNFAVORABLE	400	bottlebrush squirreltail		5		
						other perennial grasses		5
						Sandberg bluegrass		3
						other perennial forbs		5
						globemallow		2
						Wyoming big sagebrush		30
						other shrubs		5
						rabbitbrush		3
McIvey-----	LOAMY SLOPE 12-16 P.Z. (R028BY015NV)	FAVORABLE	1500	bluebunch wheatgrass		30		
		NORMAL	1100	Thurber's needlegrass		5		
		UNFAVORABLE	700	basin wildrye		5		
						other perennial grasses		5
						western needlegrass		5
						muttongrass		2
						other perennial forbs		5
						arrowleaf balsamroot		3
						longleaf hawksbeard		2
						mountain big sagebrush		10
						Utah serviceberry		5
						antelope bitterbrush		5
						snowberry		5
						other shrubs		3
						other trees		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Pern-----	LOAMY BOTTOM 10-14 P.Z. (R028BY003NV)	FAVORABLE	6000	basin wildrye		70
		NORMAL	4000	Nevada bluegrass		5
		UNFAVORABLE	2000	other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		5
				other shrubs		5
1150: Zoda-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Cath-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Heist-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Geer-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
1151: Watoopah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
		Zoda-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass
NORMAL	600			needleandthread		10
UNFAVORABLE	300			other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)			FAVORABLE	1000	basin wildrye
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Handpah-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
Littleailie-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
		winterfat		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
1154: Qwynn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Ragnel-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Veet-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Crestline-----	SILT FLAT (R028AY001NV)	FAVORABLE	450	bottlebrush squirreltail		10
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		60
				greenmolly kochia		5
				other shrubs		5
1160: Silent-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Koyen-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
		winterfat		5		
		bud sagebrush		2		
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Tybo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
		winterfat		5		
		bud sagebrush		2		
1170: Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	600	muttongrass		5
				needleandthread		5
				needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		15
				other shrubs		5
				snowberry		5
		other trees		2		
Hardol-----	CALCAREOUS LOAM 16+ P.Z. (R028BY085NV)	FAVORABLE	1500	bluebunch wheatgrass		20
		NORMAL	1100	Columbia needlegrass		10
		UNFAVORABLE	700	Letterman needlegrass		5
				mountain brome		5
				other perennial grasses		5
				slender wheatgrass		5
				spike fescue		5
				other perennial forbs		5
				mountain big sagebrush		20
				Utah serviceberry		5
				other shrubs		5
		snowberry		5		
Xine-----	CALCAREOUS LOAM 14-16 P.Z. (R028BY088NV)	FAVORABLE	1500	bluebunch wheatgrass		45
		NORMAL	1100	Canby bluegrass		5
		UNFAVORABLE	700	basin wildrye		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		10
				antelope bitterbrush		5
				other shrubs		5
				snowberry		3
				Utah serviceberry		2
		other trees		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Hardzem-----	F028BY063NV	FAVORABLE	800	spike fescue	15	
		NORMAL	500	bluebunch wheatgrass	5	
		UNFAVORABLE	300	muttongrass	5	
				other perennial grasses	5	
				goldenweed	5	
				other perennial forbs	5	
				Oregongrape	20	
				common juniper	20	
				mountain big sagebrush	5	
				other shrubs	5	
				white fir	5	
				Great Basin bristlecone pine	2	
				limber pine	2	
Haunchee-----	CALCAREOUS MAHOGANY SAVANNA (R028BY043NV)	FAVORABLE	4800	bluebunch wheatgrass		20
		NORMAL	3500	Columbia needlegrass		5
		UNFAVORABLE	2500	muttongrass		5
				other perennial grasses		5
				western needlegrass		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		20
				other shrubs		5
				snowberry		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1171: Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
NORMAL		900	Indian ricegrass		5	
UNFAVORABLE		600	muttongrass		5	
			needleandthread		5	
			needlegrass		5	
			other perennial grasses		5	
			other perennial forbs		5	
			curlleaf mountainmahogany		25	
			mountain big sagebrush		15	
			other shrubs		5	
			snowberry		5	
		other trees		2		
Hardzem-----	F028BY063NV	FAVORABLE	800	spike fescue	15	
		NORMAL	500	bluebunch wheatgrass	5	
		UNFAVORABLE	300	muttongrass	5	
				other perennial grasses	5	
				goldenweed	5	
				other perennial forbs	5	
				Oregongrape	20	
				common juniper	20	
				mountain big sagebrush	5	
				other shrubs	5	
				white fir	5	
				Great Basin bristlecone pine	2	
				limber pine	2	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Guiser-----	F028BY055NV	FAVORABLE	600	spike fescue	10	
		NORMAL	400	mountain brome	9	
		UNFAVORABLE	250	slender wheatgrass	9	
				Nevada bluegrass	5	
				bluebunch wheatgrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				Oregongrape	15	
				common juniper	15	
				other shrubs	10	
quaking aspen	5					
white fir	5					
Hardol-----	MAHOGANY THICKET (R028BY042NV)	FAVORABLE	5000	bluebunch wheatgrass		15
		NORMAL	4000	Thurber's needlegrass		10
		UNFAVORABLE	3200	Indian ricegrass	5	
				bottlebrush squirreltail	3	
				bluegrass	2	
				other perennial grasses	2	
				other perennial forbs	5	
				curlleaf mountainmahogany	35	
				mountain big sagebrush	10	
				snowberry	5	
other shrubs	3					
Wardbay-----	SHALLOW LOAM 16+ P.Z. (R028BY070NV)	FAVORABLE	1100	bluebunch wheatgrass		60
		NORMAL	800	Canby bluegrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				spike fescue	2	
				other perennial forbs	5	
				mountain big sagebrush	10	
				other shrubs	5	
snowberry	3					
1172: Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
		NORMAL	900	Indian ricegrass	5	
		UNFAVORABLE	600	muttongrass	5	
				needleandthread	5	
				needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	25	
				mountain big sagebrush	15	
				other shrubs	5	
				snowberry	5	
other trees	2					
Wardbay-----	SHALLOW LOAM 16+ P.Z. (R028BY070NV)	FAVORABLE	1100	bluebunch wheatgrass		60
		NORMAL	800	Canby bluegrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				spike fescue	2	
				other perennial forbs	5	
				mountain big sagebrush	10	
other shrubs	5					
snowberry	3					
Hardzem-----	F028BY063NV	FAVORABLE	800	spike fescue	15	
		NORMAL	500	bluebunch wheatgrass	5	
		UNFAVORABLE	300	muttongrass	5	
				other perennial grasses	5	
				goldenweed	5	
				other perennial forbs	5	
				Oregongrape	20	
				common juniper	20	
				mountain big sagebrush	5	
				other shrubs	5	
				white fir	5	
				Great Basin bristlecone pine	2	
				limber pine	2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eganroc-----	F028BY049NV	FAVORABLE	400	muttongrass	15	
		NORMAL	300	bluebunch wheatgrass	10	
		UNFAVORABLE	200	other perennial grasses	5	
				goldenweed	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Oregongrape	5	
				other shrubs	5	
				Great Basin bristlecone pine	10	
				limber pine	10	
				white fir	5	
Hardol-----	MAHOGANY THICKET (R028BY042NV)	FAVORABLE	5000	bluebunch wheatgrass		15
		NORMAL	4000	Thurber's needlegrass		10
		UNFAVORABLE	3200	Indian ricegrass		5
				bottlebrush squirreltail		3
				bluegrass		2
				other perennial grasses		2
				other perennial forbs		5
				curlleaf mountainmahogany		35
				mountain big sagebrush		10
				snowberry		5
				other shrubs		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Hapgood-----	SNOWPOCKET (R028BY051NV)	FAVORABLE	700	Letterman needlegrass		50
		NORMAL	500	bluegrass		8
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		10
				lupine		5
				penstemon		5
				slender buckwheat		10
				other shrubs		5
1180: Eoj-----	CLAYPAN 12-14 P.Z. (R028BY037NV)	FAVORABLE	800	bluebunch wheatgrass		20
		NORMAL	600	Sandberg bluegrass		5
		UNFAVORABLE	400	Thurber's needlegrass		5
				muttongrass		5
				other perennial grasses		5
				pine needlegrass		5
				western needlegrass		5
				other perennial forbs		5
				low sagebrush		25
				other shrubs		7
				antelope bitterbrush		5
				other trees		3
Eoj-----	CLAYPAN 12-14 P.Z. (R028BY037NV)	FAVORABLE	800	bluebunch wheatgrass		20
		NORMAL	600	Sandberg bluegrass		5
		UNFAVORABLE	400	Thurber's needlegrass		5
				muttongrass		5
				other perennial grasses		5
				pine needlegrass		5
				western needlegrass		5
				other perennial forbs		5
				low sagebrush		25
				other shrubs		7
				antelope bitterbrush		5
				other trees		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
McIvey-----	LOAMY 12-16 P.Z. (R028BY030NV)	FAVORABLE	1500	bluebunch wheatgrass		35	
		NORMAL	1200	Thurber's needlegrass		15	
		UNFAVORABLE	900	basin wildrye		5	
					other perennial grasses		5
				other perennial forbs		5	
				mountain big sagebrush		20	
				antelope bitterbrush		5	
				other shrubs		5	
Hutchley-----	MOUNTAIN RIDGE 12-14 P.Z. (R028BY034NV)	FAVORABLE	350	bluebunch wheatgrass		25	
		NORMAL	200	Thurber's needlegrass		10	
		UNFAVORABLE	100	other perennial grasses		5	
					Sandberg bluegrass		4
					muttongrass		3
					pine needlegrass		3
					other perennial forbs		5
					goldenweed		2
					low sagebrush		20
					black sagebrush		15
					other shrubs		5
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				
Tusel-----	LOAMY SLOPE 16+ P.Z. (R025XY004NV)	FAVORABLE	2600	other perennial forbs		10	
		NORMAL	1800	other shrubs		10	
		UNFAVORABLE	1400	Utah serviceberry		5	
				western chokecherry		5	
				mountain brome		15	
				other perennial grasses		10	
				slender wheatgrass		10	
				Idaho fescue		5	
				bluegrass		5	
				mountain big sagebrush		10	
	snowberry		10				
1190: Pookaloo-----	F028BY060NV	FAVORABLE	500	bluebunch wheatgrass	15		
		NORMAL	300	Indian ricegrass	10		
		UNFAVORABLE	250	bluegrass	10		
				bottlebrush squirreltail	10		
				Thurber's needlegrass	5		
				other perennial grasses	5		
				other perennial forbs	5		
				black sagebrush	15		
				Stansbury cliffrose	5		
				curlleaf mountainmahogany	5		
				other shrubs	5		
				singleleaf pinyon	5		
				Utah juniper	2		
Cavehill-----	F028BY062NV	FAVORABLE	700	Thurber's needlegrass	15		
		NORMAL	500	bluebunch wheatgrass	10		
		UNFAVORABLE	300	Canby bluegrass	5		
				Indian ricegrass	5		
				basin wildrye	5		
				other perennial grasses	5		
				other perennial forbs	5		
	mountain big sagebrush	25					
	other shrubs	5					
	singleleaf pinyon	5					
	Utah juniper	2					
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Cavehill-----	F028BY062NV	FAVORABLE	700	Thurber's needlegrass	15	
		NORMAL	500	bluebunch wheatgrass	10	
		UNFAVORABLE	300	Canby bluegrass	5	
				Indian ricegrass	5	
				basin wildrye	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	25	
				other shrubs	5	
				singleleaf pinyon	5	
		Utah juniper	2			
Tecomar-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028BY008NV)	FAVORABLE	600	bluebunch wheatgrass		20
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	200	Sandberg bluegrass		3
				other perennial grasses		3
				muttongrass		2
				needleandthread		2
				other perennial forbs		5
				longleaf hawksbeard		3
				goldenweed		2
				black sagebrush		25
				other shrubs		5
				shadscale		5
				winterfat		5
				other trees		3
Xine-----	CALCAREOUS LOAM 14-16 P.Z. (R028BY088NV)	FAVORABLE	1500	bluebunch wheatgrass		45
		NORMAL	1100	Canby bluegrass		5
		UNFAVORABLE	700	basin wildrye		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		10
				antelope bitterbrush		5
				other shrubs		5
				snowberry		3
		Utah serviceberry		2		
		other trees		2		
Onkeyo-----	SHALLOW LOAM 10-14 P.Z. (R028BY079NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	other perennial grasses		5
		UNFAVORABLE	300	Canby bluegrass		3
				muttongrass		2
				other perennial forbs		5
				bluebunch wheatgrass		30
				mountain big sagebrush		20
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
1200: Urmafot-----	SHALLOW CALCAREOUS LOAM 10-14 P.Z. (R028BY006NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		15
		UNFAVORABLE	400	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		20
				other shrubs		5
				winterfat		5
				other trees		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Bobs-----	CALCAREOUS LOAM 10-14 P.Z. (R028BY094NV)	FAVORABLE	900	bluebunch wheatgrass		35
		NORMAL	700	Indian ricegrass		5
		UNFAVORABLE	400	basin wildrye		5
				needleandthread		5
				other perennial grasses		5
				Canby bluegrass		3
				Sandberg bluegrass		2
				other perennial forbs		5
				big sagebrush		25
				other shrubs		5
	other trees		2			
Palinor-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028BY011NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	450	Sandberg bluegrass		5
		UNFAVORABLE	250	green rabbitbrush		3
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				bottlebrush squirreltail		5
				other shrubs		5
				shadscale		5
Pookaloo-----	F028BY060NV	FAVORABLE	500	bluebunch wheatgrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluegrass	10	
				bottlebrush squirreltail	10	
				Thurber's needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	15	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				other shrubs	5	
				singleleaf pinyon	5	
				Utah juniper	2	
Shantown-----	LOAMY 10-12 P.Z. (R028BY007NV)	FAVORABLE	1000	Thurber's needlegrass		30
		NORMAL	800	bluebunch wheatgrass		15
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				bluegrass		3
				Indian ricegrass		2
				other perennial forbs		5
				longleaf hawksbeard		3
				arrowleaf balsamroot		2
				big sagebrush		15
				antelope bitterbrush		5
				other shrubs		3
				other trees		2
Urmafot-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028BY008NV)	FAVORABLE	600	bluebunch wheatgrass	20	
		NORMAL	400	Indian ricegrass	10	
		UNFAVORABLE	200	Sandberg bluegrass	3	
				other perennial grasses	3	
				muttongrass	2	
				needleandthread	2	
				other perennial forbs	5	
				longleaf hawksbeard	3	
				goldenweed	2	
				black sagebrush	25	
				other shrubs	5	
				shadscale	5	
				winterfat	5	
	other trees	3				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Tulase-----	LOAMY FAN 8-12 P.Z. (R028BY045NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	thickspike wheatgrass		10
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
				winterfat		10
				Douglas rabbitbrush		3
1210: Palinor-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028BY011NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	450	Sandberg bluegrass		5
		UNFAVORABLE	250	green rabbitbrush		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				bottlebrush squirreltail		5
				other shrubs		5
				shadscale		5
Parisa-----	LOAMY 8-10 P.Z. (R028BY010NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		15
		UNFAVORABLE	400	bottlebrush squirreltail		5
				other perennial grasses		5
				Sandberg bluegrass		3
				other perennial forbs		5
				globemallow		2
				Wyoming big sagebrush		30
				other shrubs		5
				rabbitbrush		3
Rebel-----	LOAMY 8-10 P.Z. (R028BY010NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		15
		UNFAVORABLE	400	bottlebrush squirreltail		5
				other perennial grasses		5
				Sandberg bluegrass		3
				other perennial forbs		5
				globemallow		2
				Wyoming big sagebrush		30
				other shrubs		5
				rabbitbrush		3
Hessing-----	LOAMY 5-8 P.Z. (R028BY017NV)	FAVORABLE	400	Indian ricegrass		15
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		5
				other perennial forbs		5
				shadscale		45
				bud sagebrush		15
				other shrubs		5
Linoyer-----	COARSE SILTY 6-8 P.Z. (R028BY084NV)	FAVORABLE	900	Indian ricegrass		45
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial forbs		5
				globemallow		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Zerk-----	COARSE GRAVELLY LOAM 6-8 P.Z. (R028BY075NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	300	other perennial grasses		2
				other perennial forbs		3
				globemallow		2
				shadscale		25
				Douglas rabbitbrush		5
				bud sagebrush		5
				winterfat		5
				other shrubs		3
Zimbob-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028BY016NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	225	needleandthread		10
		UNFAVORABLE	100	Sandberg bluegrass		5
				bottlebrush squirreltail		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		5
				shadscale		5
				other trees		1
1211: Palinor-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028BY011NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	450	Sandberg bluegrass		5
		UNFAVORABLE	250	green rabbitbrush		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				bottlebrush squirreltail		5
				other shrubs		5
				shadscale		5
Urmafot-----	SHALLOW CALCAREOUS LOAM 10-14 P.Z. (R028BY006NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		15
		UNFAVORABLE	400	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		20
				other shrubs		5
				winterfat		5
				other trees		3
Urmafot-----	F028BY060NV	FAVORABLE	500	bluebunch wheatgrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluegrass	10	
				bottlebrush squirreltail	10	
				Thurber's needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	15	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
		other shrubs	5			
		singleleaf pinyon	5			
		Utah juniper	2			
Xine-----	CALCAREOUS LOAM 10-14 P.Z. (R028BY094NV)	FAVORABLE	900	bluebunch wheatgrass		35
		NORMAL	700	Indian ricegrass		5
		UNFAVORABLE	400	basin wildrye		5
				needleandthread		5
				other perennial grasses		5
				Canby bluegrass		3
				Sandberg bluegrass		2
				other perennial forbs		5
				big sagebrush		25
				other shrubs		5
		other trees		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition				
		Kind of year	Dry weight		Forest	Range			
			Lb/acre		Pct	Pct			
Izar-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028BY016NV)	FAVORABLE	350	Indian ricegrass		15			
		NORMAL	225	needleandthread		10			
		UNFAVORABLE	100	Sandberg bluegrass		5			
			bottlebrush squirreltail		5				
			other perennial grasses		5				
			other perennial forbs		5				
			black sagebrush		40				
other shrubs		5							
shadscale		5							
other trees		1							
Tulase-----	LOAMY FAN 8-12 P.Z. (R028BY045NV)	FAVORABLE	1000	basin wildrye		20			
		NORMAL	800	thickspike wheatgrass		10			
		UNFAVORABLE	600	other perennial grasses		5			
			other perennial forbs		5				
			Wyoming big sagebrush		35				
			other shrubs		10				
			winterfat		10				
Douglas rabbitbrush		3							
Pern-----	LOAMY BOTTOM 10-14 P.Z. (R028BY003NV)	FAVORABLE	6000	basin wildrye		70			
		NORMAL	4000	Nevada bluegrass		5			
		UNFAVORABLE	2000	other perennial grasses		5			
			other perennial forbs		5				
			basin big sagebrush		5				
			other shrubs		5				
1212: Palinor-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028BY011NV)	FAVORABLE	600	Indian ricegrass		25			
		NORMAL UNFAVORABLE	450	Sandberg bluegrass		5			
			250	green rabbitbrush		5			
			needleandthread		5				
			other perennial grasses		5				
			other perennial forbs		5				
			black sagebrush		30				
			bottlebrush squirreltail		5				
			other shrubs		5				
			shadscale		5				
			Yody-----	GRAVELLY CLAY 10-12 P.Z. (R028BY086NV)	FAVORABLE	800	Thurber's needlegrass		25
					NORMAL UNFAVORABLE	600	Indian ricegrass		7
350	needleandthread					7			
other perennial grasses		5							
Canby bluegrass		3							
Sandberg bluegrass		2							
other perennial forbs		5							
crag aster		3							
longleaf hawksbeard		2							
other shrubs		5							
spiny hopsage		5							
Wyoming big sagebrush		25							
other trees		1							
Broland-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028BY089NV)	FAVORABLE	450	Indian ricegrass		25			
		NORMAL UNFAVORABLE	300	Thurber's needlegrass		20			
			150	needleandthread		5			
			other perennial grasses		5				
			other perennial forbs		5				
			black sagebrush		30				
			other shrubs		5				
other trees		1							
Sodhouse-----	COARSE SILTY 6-8 P.Z. (R028BY084NV)	FAVORABLE	900	Indian ricegrass		45			
		NORMAL UNFAVORABLE	700	other perennial grasses		5			
			400	bottlebrush squirreltail		3			
			other perennial forbs		5				
			globemallow		2				
			winterfat		25				
			bud sagebrush		5				
			other shrubs		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Abgese-----	LOAMY 8-10 P.Z. (R028BY010NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		15
		UNFAVORABLE	400	bottlebrush squirreltail		5
				other perennial grasses		5
				Sandberg bluegrass		3
				other perennial forbs		5
				globemallow		2
				Wyoming big sagebrush		30
				other shrubs		5
				rabbitbrush		3
Enko-----	LOAMY 10-12 P.Z. (R028BY007NV)	FAVORABLE	1000	Thurber's needlegrass		30
		NORMAL	800	bluebunch wheatgrass		15
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				bluegrass		3
				Indian ricegrass		2
				other perennial forbs		5
				longleaf hawksbeard		3
				arrowleaf balsamroot		2
				big sagebrush		15
				antelope bitterbrush		5
				other shrubs		3
				other trees		2
Linoyer-----	COARSE SILTY 6-8 P.Z. (R028BY084NV)	FAVORABLE	900	Indian ricegrass		45
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial forbs		5
				globemallow		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
1215: Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Jarab-----	SHALLOW CALCAREOUS LOAM 10-14 P.Z. (R028AY043NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
	wild crab apple	5				
	Utah juniper	5				
	singleleaf pinyon	5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Bigspring-----	LOAMY BOTTOM 10-14 P.Z. (R028AY090NV)	FAVORABLE	6000	basin wildrye		70
		NORMAL	4000	Nevada bluegrass		5
		UNFAVORABLE	2500	other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				basin big sagebrush		5
				other shrubs		2
1220: Lien-----	SHALLOW CLAY LOAM 8-12 P.Z. (R029XY104NV)	FAVORABLE	700	Indian ricegrass		15
		NORMAL	500	Thurber's needlegrass		10
		UNFAVORABLE	350	blue grama		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				muttongrass		5
				other shrubs		5
				other trees		5
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Farepeak-----	F028AY099NV	FAVORABLE	700	bluebunch wheatgrass	10	
		NORMAL	500	muttongrass	10	
		UNFAVORABLE	300	other perennial grasses	10	
				other perennial forbs	10	
				mountain big sagebrush	25	
				other shrubs	10	
				antelope bitterbrush	5	
				curlleaf mountainmahogany	5	
				Utah juniper	5	
				singleleaf pinyon	5	
1230: Yotes-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Chuckridge-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		10
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		15
				Stansbury cliffrose		5
				other shrubs		5
				wild crab apple		5
				other trees		1
		Geer-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass
NORMAL	600			galleta		5
UNFAVORABLE	400			bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
		shadscale		5		
Kolda-----	WET MEADOW 10-14 P.Z. (R028BY001NV)	FAVORABLE	4000	sedge		25
		NORMAL	2000	alkali bluegrass		20
		UNFAVORABLE	1200	Nevada bluegrass		15
				basin wildrye		5
				mat muhly		5
				other perennial grasses		5
				rush		5
				other perennial forbs		5
				groundsel		3
				cinquefoil		2
				other shrubs		5
1231: Newvil-----	SHALLOW CLAY LOAM 8-12 P.Z. (R029XY104NV)	FAVORABLE	700	Indian ricegrass		15
		NORMAL	500	Thurber's needlegrass		10
		UNFAVORABLE	350	blue grama		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				muttongrass		5
				other shrubs		5
		other trees		5		
Nevu-----	LOAMY 10-12 P.Z. (R029XY029NV)	FAVORABLE	1100	needleandthread		25
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	600	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		5
				fourwing saltbush		5
				other shrubs		5
				other trees		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ponyspring-----	LOAMY 12-14 P.Z. (R028AY092NV)	FAVORABLE	1400	bluebunch wheatgrass		35
		NORMAL	1000	Thurber's needlegrass		15
		UNFAVORABLE	800	basin wildrye		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		15
				antelope bitterbrush		5
	other shrubs		5			
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Littleailie-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Modem-----	LOAMY 10-12 P.Z. (R029XY029NV)	FAVORABLE	1100	needleandthread		25
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	600	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		5
				fourwing saltbush		5
				other shrubs		5
				other trees		3
			Okayview-----	LOAMY 10-12 P.Z. (R029XY029NV)	FAVORABLE	1100
NORMAL	800	Indian ricegrass				15
UNFAVORABLE	600	muttongrass				5
		other perennial grasses				5
		other perennial forbs				5
		big sagebrush				20
		Stansbury cliffrose				5
		fourwing saltbush				5
	other shrubs		5			
	other trees		3			
Qwynn-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
	winterfat		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1232: Nevu-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		10
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		15
				Stansbury cliffrose		5
				other shrubs		5
				wild crab apple		5
				other trees		1
Ponyspring-----	LOAMY 12-14 P.Z. (R028AY092NV)	FAVORABLE	1400	bluebunch wheatgrass		35
		NORMAL	1000	Thurber's needlegrass		15
		UNFAVORABLE	800	basin wildrye		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		15
				antelope bitterbrush		5
				other shrubs		5
Okayview-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				muttongrass		5
				other shrubs		5
				other trees		2
Plegomir-----	F028AY041NV	FAVORABLE	400	Indian ricegrass	20	
		NORMAL	250	Sandberg bluegrass	5	
		UNFAVORABLE	150	bottlebrush squirreltail	5	
				needleandthread	5	
				other perennial grasses	5	
				other perennial forbs	10	
				black sagebrush	20	
				green ephedra	15	
				other shrubs	5	
				Utah juniper	5	
Ravendog-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Schoolmarm-----	CLAYPAN 12-14 P.Z. (R028AY094NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				other perennial forbs		10
				low sagebrush		25
				antelope bitterbrush		5
				other shrubs		5
				other trees		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1240: Sycomat-----	COARSE GRAVELLY LOAM 5-8 P.Z. (R028AY018NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Indian ricegrass galleta needleandthread other perennial grasses sand dropseed other perennial forbs globemallow shadscale winterfat bud sagebrush other shrubs		30 5 5 5 5 5 2 20 10 5 5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 400	Indian ricegrass galleta bottlebrush squirreltail other perennial grasses other perennial forbs winterfat bud sagebrush other shrubs shadscale		40 5 3 3 2 25 5 5 5
Gravier-----	LOAMY 5-8 P.Z. (R028AY012NV)	FAVORABLE NORMAL UNFAVORABLE	500 300 200	Indian ricegrass other perennial grasses King's desertgrass galleta other perennial forbs globemallow shadscale Nevada ephedra bud sagebrush greenmolly kochia other shrubs winterfat		15 5 2 2 5 3 40 5 5 5 5 5
Heist-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	basin wildrye Indian ricegrass needleandthread other perennial grasses thickspike wheatgrass other perennial forbs Wyoming big sagebrush winterfat other shrubs		20 10 5 5 5 5 30 10 5
1270: Heusser-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE NORMAL UNFAVORABLE	900 700 450	bluebunch wheatgrass Thurber's needlegrass muttongrass needleandthread other perennial grasses other perennial forbs mountain big sagebrush antelope bitterbrush other shrubs other trees		30 5 5 5 5 5 20 10 5 5
Wambolt-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE NORMAL UNFAVORABLE	2500 1800 1200	bluebunch wheatgrass muttongrass other perennial grasses Columbia needlegrass Letterman needlegrass other perennial forbs curl-leaf mountain mahogany mountain big sagebrush other shrubs other trees		20 5 5 2 2 5 40 10 5 5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Fax-----	LOAMY 10-12 P.Z. (R028BY007NV)	FAVORABLE	1000	Thurber's needlegrass		30		
		NORMAL	800	bluebunch wheatgrass		15		
		UNFAVORABLE	600	needleandthread		5		
				other perennial grasses		5		
				bluegrass		3		
				Indian ricegrass		2		
				other perennial forbs		5		
				longleaf hawksbeard		3		
				arrowleaf balsamroot		2		
				big sagebrush		15		
				antelope bitterbrush		5		
				other shrubs		3		
				other trees		2		
Badena-----	LOAMY 10-12 P.Z. (R028AY095NV)	FAVORABLE	1000	needleandthread		25		
		NORMAL	800	bluebunch wheatgrass		15		
		UNFAVORABLE	600	Indian ricegrass		10		
				other perennial grasses		5		
				Thurber's needlegrass		2		
				other perennial forbs		5		
				Wyoming big sagebrush		25		
				other shrubs		5		
				other trees		2		
		Hackwood-----	ASPEN THICKET (R028AY073NV)	FAVORABLE	1800	mountain brome		10
NORMAL	1300			needlegrass		5		
UNFAVORABLE	900			nodding brome		5		
				other perennial grasses		5		
				slender wheatgrass		5		
				other perennial forbs		20		
				meadowrue		5		
				mountain big sagebrush		10		
				snowberry		10		
				other shrubs		5		
				quaking aspen		20		
1280: Badena-----	LOAMY 10-12 P.Z. (R028AY095NV)			FAVORABLE	1000	needleandthread		25
				NORMAL	800	bluebunch wheatgrass		15
		UNFAVORABLE	600	Indian ricegrass		10		
				other perennial grasses		5		
				Thurber's needlegrass		2		
				other perennial forbs		5		
				Wyoming big sagebrush		25		
				other shrubs		5		
				other trees		2		
		Badena-----	GRAVELLY LOAM 12-14 P.Z. (R028AY066NV)	FAVORABLE	1200	bluebunch wheatgrass		20
NORMAL	900			Thurber's needlegrass		10		
UNFAVORABLE	700			bluegrass		5		
				other perennial grasses		5		
				other perennial forbs		5		
				antelope bitterbrush		30		
				mountain big sagebrush		10		
Zafod-----	LOAMY 10-12 P.Z. (R028AY095NV)	FAVORABLE	1000	needleandthread		25		
		NORMAL	800	bluebunch wheatgrass		15		
		UNFAVORABLE	600	Indian ricegrass		10		
				other perennial grasses		5		
				Thurber's needlegrass		2		
				other perennial forbs		5		
				Wyoming big sagebrush		25		
				other shrubs		5		
				other trees		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1291: Zimbob-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028BY016NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	225	needleandthread		10
		UNFAVORABLE	100	Sandberg bluegrass		5
				bottlebrush squirreltail		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		5
				shadscale		5
				other trees		1
Pookaloo-----	F028BY060NV	FAVORABLE	500	bluebunch wheatgrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluegrass	10	
				bottlebrush squirreltail	10	
				Thurber's needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	15	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				other shrubs	5	
				singleleaf pinyon	5	
				Utah juniper	2	
Cavehill-----	F028BY062NV	FAVORABLE	700	Thurber's needlegrass	15	
		NORMAL	500	bluebunch wheatgrass	10	
		UNFAVORABLE	300	Canby bluegrass	5	
				Indian ricegrass	5	
				basin wildrye	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	25	
				other shrubs	5	
				singleleaf pinyon	5	
				Utah juniper	2	
Tecomar-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028BY008NV)	FAVORABLE	600	bluebunch wheatgrass		20
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	200	Sandberg bluegrass		3
				other perennial grasses		3
				muttongrass		2
				needleandthread		2
				other perennial forbs		5
				longleaf hawksbeard		3
				goldenweed		2
				black sagebrush		25
				other shrubs		5
				shadscale		5
				winterfat		5
				other trees		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1300: Pioche-----	F028BY062NV	FAVORABLE	700	Thurber's needlegrass	15	
		NORMAL	500	bluebunch wheatgrass	10	
		UNFAVORABLE	300	Canby bluegrass	5	
				Indian ricegrass	5	
				basin wildrye	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	25	
				other shrubs	5	
				singleleaf pinyon	5	
				Utah juniper	2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Birchcreek-----	GRAVELLY LOAM 12-14 P.Z. (R028BY046NV)	FAVORABLE	1200	bluebunch wheatgrass		15
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	700	Thurber's needlegrass		5
			other perennial grasses		5	
			western needlegrass		5	
			bluegrass		3	
			other perennial forbs		10	
			antelope bitterbrush		30	
			mountain big sagebrush		15	
			other shrubs		3	
Cropper-----	F028BY058NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	300	muttongrass	10	
		UNFAVORABLE	200	basin wildrye	2	
			other perennial grasses	2		
			other perennial forbs	3		
			mountain big sagebrush	25		
			antelope bitterbrush	10		
			curlleaf mountainmahogany	10		
			serviceberry	10		
			snowberry	10		
			singleleaf pinyon	5		
			Utah juniper	1		
			Upatad-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028BY093NV)	FAVORABLE	800
NORMAL	600	Thurber's needlegrass				15
UNFAVORABLE	400	Indian ricegrass				5
	other perennial grasses				5	
	Canby bluegrass				4	
	muttongrass				3	
	other perennial forbs				8	
	black sagebrush				25	
	other shrubs				3	
	other trees				2	
Cassiro family--	GRAVELLY LOAM 12-14 P.Z. (R028BY046NV)	FAVORABLE	1200	bluebunch wheatgrass		15
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	700	Thurber's needlegrass		5
			other perennial grasses		5	
			western needlegrass		5	
			bluegrass		3	
			other perennial forbs		10	
			antelope bitterbrush		30	
			mountain big sagebrush		15	
			other shrubs		3	
Selti-----	LOAMY 10-12 P.Z. (R028BY007NV)	FAVORABLE	1000	Thurber's needlegrass		30
		NORMAL	800	bluebunch wheatgrass		15
		UNFAVORABLE	600	needleandthread		5
			other perennial grasses		5	
			bluegrass		3	
			Indian ricegrass		2	
			other perennial forbs		5	
			longleaf hawksbeard		3	
			arrowleaf balsamroot		2	
			big sagebrush		15	
			antelope bitterbrush		5	
			other shrubs		3	
			other trees		2	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1307: Kyler-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		10
				Utah juniper		5
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasewood		2
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Baberwit-----	GRAVELLY BARREN FAN (R028AY007NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	225	needleandthread		10
		UNFAVORABLE	150	galleta		5
				other perennial grasses		5
				bottlebrush squirreltail		3
				Sandberg bluegrass		2
				other perennial forbs		5
				pigmy sagebrush		50
				other shrubs		5
1310: Duffer-----	SALINE BOTTOM (R028BY004NV)	FAVORABLE	2200	basin wildrye		45
		NORMAL	1500	alkali sacaton		20
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				black greasewood		5
				other shrubs		5
				rubber rabbitbrush		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Duffer-----	SALINE MEADOW (R028BY002NV)	FAVORABLE	1500	alkali sacaton		40
		NORMAL	1000	alkali cordgrass		10
		UNFAVORABLE	700	Baltic rush		5
				alkaligrass		5
				bluegrass		5
				inland saltgrass		5
				other perennial grasses		5
				sedge		5
				other perennial forbs		10
other shrubs		5				
Kolda-----	WET MEADOW 10-14 P.Z. (R028BY001NV)	FAVORABLE	4000	sedge		25
		NORMAL	2000	alkali bluegrass		20
		UNFAVORABLE	1200	Nevada bluegrass		15
				basin wildrye		5
				mat muhly		5
				other perennial grasses		5
				rush		5
				other perennial forbs		5
				groundsel		3
				cinquefoil		2
				other shrubs		5
Sheffit-----	SODIC TERRACE 8-10 P.Z. (R028BY028NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
other shrubs		5				
rubber rabbitbrush		5				
Boofuss-----	SODIC FLAT 5-8 P.Z. (R028BY020NV)	FAVORABLE	500	alkali sacaton		7
		NORMAL	300	inland saltgrass		5
		UNFAVORABLE	150	other perennial grasses		5
				basin wildrye		2
				other perennial forbs		3
				black greasewood		60
				other shrubs		5
shadscale		5				
rubber rabbitbrush		3				
1320: Broland-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028BY089NV)	FAVORABLE	450	Indian ricegrass		25
		NORMAL	300	Thurber's needlegrass		20
		UNFAVORABLE	150	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
other shrubs		5				
other trees		1				
Yody-----	GRAVELLY CLAY 10-12 P.Z. (R028BY086NV)	FAVORABLE	800	Thurber's needlegrass		25
		NORMAL	600	Indian ricegrass		7
		UNFAVORABLE	350	needleandthread		7
				other perennial grasses		5
				Canby bluegrass		3
				Sandberg bluegrass		2
				other perennial forbs		5
				crag aster		3
				longleaf hawksbeard		2
				other shrubs		5
				spiny hopsage		5
Wyoming big sagebrush		25				
other trees		1				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Palinor-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028BY016NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	225	needleandthread		10
		UNFAVORABLE	100	Sandberg bluegrass		5
				bottlebrush squirreltail		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		5
	shadscale		5			
	other trees		1			
Palinor-----	BARREN FAN 8-12 P.Z. (R028BY040NV)	FAVORABLE	250	Indian ricegrass		10
		NORMAL	175	Sandberg bluegrass		5
		UNFAVORABLE	100	bottlebrush squirreltail		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				pigmy sagebrush		55
				other shrubs		5
Tulase-----	LOAMY FAN 8-12 P.Z. (R028BY045NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	thickspike wheatgrass		10
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
				winterfat		10
				Douglas rabbitbrush		3
1330: Amelar-----	GRAVELLY CALCAREOUS LOAM 14+ P.Z. (R028BY091NV)	FAVORABLE	1200	bluebunch wheatgrass		20
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	700	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				Utah serviceberry		35
				mountain big sagebrush		10
				antelope bitterbrush		5
	other shrubs		5			
	other trees		2			
Eoj-----	CALCAREOUS CLAYPAN 14-16 P.Z. (R028BY092NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	muttongrass		10
		UNFAVORABLE	500	other perennial grasses		5
				Canby bluegrass		3
				other perennial forbs		5
				barestem buckwheat		2
				low sagebrush		30
				antelope bitterbrush		5
	other shrubs		5			
	Utah serviceberry		3			
	other trees		2			
Hardol-----	CALCAREOUS LOAM 16+ P.Z. (R028BY085NV)	FAVORABLE	1500	bluebunch wheatgrass		20
		NORMAL	1100	Columbia needlegrass		10
		UNFAVORABLE	700	Letterman needlegrass		5
				mountain brome		5
				other perennial grasses		5
				slender wheatgrass		5
				spike fescue		5
				other perennial forbs		5
				mountain big sagebrush		20
				Utah serviceberry		5
				other shrubs		5
				snowberry		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Onkeyo-----	SHALLOW LOAM 10-14 P.Z. (R028BY079NV)	FAVORABLE	700	Indian ricegrass		20	
		NORMAL	500	other perennial grasses		5	
		UNFAVORABLE	300	Canby bluegrass		3	
					muttongrass		2
				other perennial forbs		5	
				bluebunch wheatgrass		30	
				mountain big sagebrush		20	
				antelope bitterbrush		5	
				other shrubs		5	
				other trees		2	
Adobe-----	SHALLOW CALCAREOUS SLOPE 14+ P.Z. (R028BY027NV)	FAVORABLE	600	bluebunch wheatgrass		60	
		NORMAL	450	muttongrass		2	
		UNFAVORABLE	300	other perennial grasses		2	
					goldenweed		2
				other perennial forbs		2	
				black sagebrush		25	
				other shrubs		2	
Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10	
		NORMAL	900	Indian ricegrass		5	
		UNFAVORABLE	600	muttongrass		5	
					needleandthread		5
					needlegrass		5
					other perennial grasses		5
					other perennial forbs		5
					curlleaf mountainmahogany		25
					mountain big sagebrush		15
					other shrubs		5
					snowberry		5
			other trees		2		
Pharo-----	F028BY049NV	FAVORABLE	400	muttongrass	15		
		NORMAL	300	bluebunch wheatgrass	10		
		UNFAVORABLE	200	other perennial grasses	5		
					goldenweed	5	
					other perennial forbs	5	
					mountain big sagebrush	20	
					Oregongrape	5	
					other shrubs	5	
					Great Basin bristlecone pine	10	
					limber pine	10	
			white fir	5			
Kolda-----	WET MEADOW 10-14 P.Z. (R028BY001NV)	FAVORABLE	4000	sedge		25	
		NORMAL	2000	alkali bluegrass		20	
		UNFAVORABLE	1200	Nevada bluegrass		15	
					basin wildrye		5
					mat muhly		5
					other perennial grasses		5
					rush		5
					other perennial forbs		5
					groundsel		3
					cinquefoil		2
			other shrubs		5		
1340: Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20	
		NORMAL	600	needleandthread		20	
		UNFAVORABLE	400	galleta		5	
					other perennial grasses		5
					Sandberg bluegrass		3
					bottlebrush squirreltail		2
					other perennial forbs		5
					Wyoming big sagebrush		20
					other shrubs		5
					spiny hopsage		5
			winterfat		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Heist-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20	
		NORMAL	800	Indian ricegrass		10	
		UNFAVORABLE	600	needleandthread		5	
					other perennial grasses		5
				thickspike wheatgrass		5	
				other perennial forbs		5	
				Wyoming big sagebrush		30	
				winterfat		10	
				other shrubs		5	
Ravendog-----	LOAMY 10-12 P.Z. (R028AY095NV)	FAVORABLE	1000	needleandthread		25	
		NORMAL	800	bluebunch wheatgrass		15	
		UNFAVORABLE	600	Indian ricegrass		10	
					other perennial grasses		5
					Thurber's needlegrass		2
					other perennial forbs		5
					Wyoming big sagebrush		25
					other shrubs		5
					other trees		2
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20	
		NORMAL	800	Indian ricegrass		10	
		UNFAVORABLE	600	needleandthread		5	
					other perennial grasses		5
					thickspike wheatgrass		5
					other perennial forbs		5
					Wyoming big sagebrush		30
					winterfat		10
					other shrubs		5
1350: Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20	
		NORMAL	600	needleandthread		20	
		UNFAVORABLE	400	galleta		5	
					other perennial grasses		5
					Sandberg bluegrass		3
					bottlebrush squirreltail		2
					other perennial forbs		5
					Wyoming big sagebrush		20
					other shrubs		5
					spiny hopsage		5
			winterfat		5		
Chuffa-----	SILT FLAT (R028AY001NV)	FAVORABLE	450	bottlebrush squirreltail		10	
		NORMAL	325	Sandberg bluegrass		5	
		UNFAVORABLE	150	other perennial grasses		5	
					other perennial forbs		5
					Wyoming big sagebrush		60
			greenmolly kochia		5		
			other shrubs		5		
Kunzler-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20	
		NORMAL	600	needleandthread		20	
		UNFAVORABLE	400	galleta		5	
					other perennial grasses		5
					Sandberg bluegrass		3
					bottlebrush squirreltail		2
					other perennial forbs		5
					Wyoming big sagebrush		20
					other shrubs		5
					spiny hopsage		5
			winterfat		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Oupico-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10		
		NORMAL	500	bottlebrush squirreltail		5		
		UNFAVORABLE	350	other perennial grasses		5		
				other perennial forbs		5		
				winterfat		55		
				bud sagebrush		5		
				fourwing saltbush		5		
				other shrubs		5		
		Springbar-----	SANDY 8-10 P.Z. (R028AY005NV)	FAVORABLE	1000	Indian ricegrass		25
				NORMAL	700	needleandthread		15
UNFAVORABLE	400			other perennial grasses		5		
				thickspike wheatgrass		5		
				sand dropseed		3		
				galleta		2		
				western wheatgrass		2		
				other perennial forbs		5		
				Wyoming big sagebrush		15		
				fourwing saltbush		5		
		other shrubs		5				
		winterfat		5				
Veet-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				
1359: Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30		
		NORMAL	800	desert needlegrass		5		
		UNFAVORABLE	500	galleta		5		
				needleandthread		5		
				other perennial grasses		5		
				other perennial forbs		3		
				desert globemallow		2		
				other annual forbs		2		
				Wyoming big sagebrush		25		
				fourwing saltbush		5		
		other shrubs		5				
		winterfat		5				
Gardenvalley----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40		
		NORMAL	450	galleta		5		
		UNFAVORABLE	300	bottlebrush squirreltail		3		
				other perennial forbs		2		
				winterfat		25		
				bud sagebrush		5		
				fourwing saltbush		5		
				other shrubs		5		
		other perennial grasses		3				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Lojet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Littleaillie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	250	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
1360: Veet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Armespan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
				other shrubs		5
Ravendog-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1362: Kyler-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Amtoft-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
Amtoft-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028AY034NV)	FAVORABLE	600	bluebunch wheatgrass		30
		NORMAL	400	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				needleandthread		3
				Sandberg bluegrass		2
				blue grama		2
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				singleleaf pinyon		3
				Utah juniper		2
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasewood		2
Ungene-----	DROUGHTY LOAM 8-10 P.Z. (R028AY028NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	galleta		5
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				spiny hopsage		10
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1370: Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15		
		NORMAL	200	needleandthread		10		
		UNFAVORABLE	75	galleta		5		
				other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		40		
				other shrubs		15		
				Nevada ephedra		4		
Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15		
		NORMAL	350	desert needlegrass		10		
		UNFAVORABLE	200	needleandthread		5		
				other perennial grasses		5		
						other perennial forbs		5
						black sagebrush		25
						Stansbury cliffrose		5
						ephedra		5
						fourwing saltbush		5
						other shrubs		5
						other trees		10
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30		
		NORMAL	500	needleandthread		10		
		UNFAVORABLE	250	other perennial grasses		5		
				Sandberg bluegrass		3		
						galleta		2
						other perennial forbs		5
						black sagebrush		30
						other shrubs		5
						fourwing saltbush		3
						Nevada ephedra		2
						winterfat		2
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20			
		NORMAL	300	Sandberg bluegrass	5			
		UNFAVORABLE	150	other perennial grasses	5			
				other perennial forbs	5			
						black sagebrush	35	
						antelope bitterbrush	5	
						buckwheat	5	
						other shrubs	5	
						singleleaf pinyon	7	
						Utah juniper	5	
Rock outcrop----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
1380: Cavehill-----	F028BY058NV	FAVORABLE	500	bluebunch wheatgrass	10			
		NORMAL	300	muttongrass	10			
		UNFAVORABLE	200	basin wildrye	2			
				other perennial grasses	2			
						other perennial forbs	3	
						mountain big sagebrush	25	
						antelope bitterbrush	10	
						curlleaf mountainmahogany	10	
						serviceberry	10	
						snowberry	10	
						singleleaf pinyon	5	
				Utah juniper	1			
Cavehill-----	F028BY076NV	FAVORABLE	500	bluebunch wheatgrass	35			
		NORMAL	350	muttongrass	5			
		UNFAVORABLE	200	other perennial grasses	5			
				other perennial forbs	10			
						mountain big sagebrush	20	
						other shrubs	5	
				singleleaf pinyon	15			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Pookaloo-----	F028BY060NV	FAVORABLE NORMAL UNFAVORABLE	500 300 250	bluebunch wheatgrass Indian ricegrass bluegrass bottlebrush squirreltail Thurber's needlegrass other perennial grasses other perennial forbs black sagebrush Stansbury cliffrose curlleaf mountainmahogany other shrubs singleleaf pinyon Utah juniper	15 10 10 10 5 5 5 15 5 5 5 5 2	
Cavehill-----	F028BY062NV	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Thurber's needlegrass bluebunch wheatgrass Canby bluegrass Indian ricegrass basin wildrye other perennial grasses other perennial forbs mountain big sagebrush other shrubs singleleaf pinyon Utah juniper	15 10 5 5 5 5 5 25 5 5 2	
Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE NORMAL UNFAVORABLE	1300 900 600	bluebunch wheatgrass Indian ricegrass muttongrass needleandthread needlegrass other perennial grasses other perennial forbs curlleaf mountainmahogany mountain big sagebrush other shrubs snowberry other trees		10 5 5 5 5 5 5 25 15 5 5 2
Hardzem-----	F028BY063NV	FAVORABLE NORMAL UNFAVORABLE	800 500 300	spike fescue bluebunch wheatgrass muttongrass other perennial grasses goldenweed other perennial forbs Oregongrape common juniper mountain big sagebrush other shrubs white fir Great Basin bristlecone pine limber pine	15 5 5 5 5 5 20 20 5 5 5 2 2	
1381: Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Indian ricegrass needleandthread galleta other perennial grasses sand dropseed other perennial forbs black sagebrush fourwing saltbush other shrubs winterfat		20 15 5 5 5 5 25 5 5 5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
		winterfat		5		
Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
		spiny hopsage		5		
		winterfat		5		
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
		other shrubs		5		
Summermute-----	COARSE GRAVELLY LOAM 5-8 P.Z. (R028AY018NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	galleta		5
		UNFAVORABLE	300	needleandthread		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				globemallow		2
				shadscale		20
				winterfat		10
		bud sagebrush		5		
		other shrubs		5		
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1382:						
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
		winterfat		5		
Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
		spiny hopsage		5		
		winterfat		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry		Forest	Range
			weight			
			Lb/acre			
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
	other shrubs		5			
Rouette-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Amtoft-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028AY034NV)	FAVORABLE	600	bluebunch wheatgrass		30
		NORMAL	400	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				needleandthread		3
				Sandberg bluegrass		2
				blue grama		2
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				singleleaf pinyon		3
				Utah juniper		2
1384: Cavehill-----	F028BY058NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	300	muttongrass	10	
		UNFAVORABLE	200	basin wildrye	2	
				other perennial grasses	2	
				other perennial forbs	3	
				mountain big sagebrush	25	
				antelope bitterbrush	10	
				curlleaf mountainmahogany	10	
				serviceberry	10	
				snowberry	10	
				singleleaf pinyon	5	
				Utah juniper	1	
			Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300
NORMAL	900	Indian ricegrass				5
UNFAVORABLE	600	muttongrass				5
		needleandthread				5
		needlegrass				5
		other perennial grasses				5
		other perennial forbs				5
		curlleaf mountainmahogany				25
		mountain big sagebrush				15
		other shrubs				5
		snowberry				5
	other trees		2			
Cavehill-----	F028BY076NV	FAVORABLE	500	bluebunch wheatgrass	35	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	200	other perennial grasses	5	
				other perennial forbs	10	
				mountain big sagebrush	20	
				other shrubs	5	
	singleleaf pinyon	15				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Cavehill-----	F028BY062NV	FAVORABLE	700	Thurber's needlegrass	15	
		NORMAL	500	bluebunch wheatgrass	10	
		UNFAVORABLE	300	Canby bluegrass	5	
				Indian ricegrass	5	
				basin wildrye	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	25	
				other shrubs	5	
				singleleaf pinyon	5	
	Utah juniper	2				
Ravendog-----	LOAMY FAN 8-12 P.Z. (R028BY045NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	thickspike wheatgrass		10
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
				winterfat		10
				Douglas rabbitbrush		3
Xine-----	CALCAREOUS LOAM 14-16 P.Z. (R028BY088NV)	FAVORABLE	1500	bluebunch wheatgrass		45
		NORMAL	1100	Canby bluegrass		5
		UNFAVORABLE	700	basin wildrye		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		10
				antelope bitterbrush		5
				other shrubs		5
				snowberry		3
	Utah serviceberry		2			
	other trees		2			
1386: Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Ursine-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
	Utah juniper		5			
Eastmore-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Xeric Torriorthents--	F028AY041NV	FAVORABLE	400	Indian ricegrass	20	
		NORMAL	250	Sandberg bluegrass	5	
		UNFAVORABLE	150	bottlebrush squirreltail	5	
				needleandthread	5	
				other perennial grasses	5	
				other perennial forbs	10	
				black sagebrush	20	
				green ephedra	15	
	other shrubs	5				
	Utah juniper	5				
Rock outcrop---	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
	winterfat		5			
1388: Eastmore-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Summermute-----	COARSE GRAVELLY LOAM 5-8 P.Z. (R028AY018NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	galleta		5
		UNFAVORABLE	300	needleandthread		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				globemallow		2
				shadscale		20
				winterfat		10
				bud sagebrush		5
	other shrubs		5			
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Katelana-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		40
				black greasewood		25
				bud sagebrush		5
				other shrubs		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1400: Suak-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	600	muttongrass		5
				needleandthread		5
				needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		15
				other shrubs		5
				snowberry		5
				other trees		2
Segura-----	GRAVELLY CLAY 12-14 P.Z. (R028BY087NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		15
		UNFAVORABLE	450	basin wildrye		5
				other perennial grasses		5
				Canby bluegrass		3
				Sandberg bluegrass		2
				other perennial forbs		5
				crag aster		3
				longleaf hawksbeard		2
				mountain big sagebrush		15
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
McIvey-----	LOAMY SLOPE 12-16 P.Z. (R028BY015NV)	FAVORABLE	1500	bluebunch wheatgrass		30
		NORMAL	1100	Thurber's needlegrass		5
		UNFAVORABLE	700	basin wildrye		5
				other perennial grasses		5
				western needlegrass		5
				muttongrass		2
				other perennial forbs		5
				arrowleaf balsamroot		3
				longleaf hawksbeard		2
				mountain big sagebrush		10
				Utah serviceberry		5
				antelope bitterbrush		5
				snowberry		5
				other shrubs		3
				other trees		2
Cassiro-----	GRAVELLY LOAM 12-14 P.Z. (R028BY046NV)	FAVORABLE	1200	bluebunch wheatgrass		15
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	700	Thurber's needlegrass		5
				other perennial grasses		5
				western needlegrass		5
				bluegrass		3
				other perennial forbs		10
				antelope bitterbrush		30
				mountain big sagebrush		15
				other shrubs		3
Rubble land----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Cropper-----	F028BY076NV	FAVORABLE	500	bluebunch wheatgrass	35	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	200	other perennial grasses	5	
				other perennial forbs	10	
				mountain big sagebrush	20	
				other shrubs	5	
				singleleaf pinyon	15	
Chen-----	CLAYPAN 12-14 P.Z. (R028BY037NV)	FAVORABLE	800	bluebunch wheatgrass		20
		NORMAL	600	Sandberg bluegrass		5
		UNFAVORABLE	400	Thurber's needlegrass		5
				muttongrass		5
				other perennial grasses		5
				pine needlegrass		5
				western needlegrass		5
				other perennial forbs		5
				low sagebrush		25
				other shrubs		7
				antelope bitterbrush		5
				other trees		3
			1430: Hardzem-----	F028BY063NV	FAVORABLE	800
NORMAL	500	bluebunch wheatgrass			5	
UNFAVORABLE	300	muttongrass			5	
		other perennial grasses			5	
		goldenweed			5	
		other perennial forbs			5	
		Oregongrape			20	
		common juniper			20	
		mountain big sagebrush			5	
		other shrubs			5	
		white fir			5	
		Great Basin bristlecone pine			2	
		limber pine			2	
	Hackwood-----	F028BY067NV			FAVORABLE	800
NORMAL			600	streambank wheatgrass	20	
UNFAVORABLE			400	mountain brome	10	
				slender wheatgrass	10	
				Nevada bluegrass	5	
				other perennial grasses	5	
				other perennial forbs	7	
				other shrubs	5	
				snowberry	5	
				mountain big sagebrush	5	
				quaking aspen	5	
Guiser-----	F028BY055NV	FAVORABLE	600	spike fescue	10	
		NORMAL	400	mountain brome	9	
		UNFAVORABLE	250	slender wheatgrass	9	
				Nevada bluegrass	5	
				bluebunch wheatgrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				Oregongrape	15	
				common juniper	15	
				other shrubs	10	
	quaking aspen	5				
	white fir	5				
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Decram-----	MOUNTAIN RIDGE 14+ P.Z. (R028BY038NV)	FAVORABLE	350	bluebunch wheatgrass		35
		NORMAL	250	muttongrass		10
		UNFAVORABLE	100	other perennial grasses		5
				pine needlegrass		2
				other perennial forbs		5
				goldenweed		2
				low sagebrush		20
				black sagebrush		15
				Douglas rabbitbrush		2
				other shrubs		2
Suak-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	600	muttongrass		5
				needleandthread		5
				needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		15
				other shrubs		5
				snowberry		5
				other trees		2
Tusel-----	LOAMY 16+ P.Z. (R028BY029NV)	FAVORABLE	1700	Letterman needlegrass		15
		NORMAL	1200	mountain brome		15
		UNFAVORABLE	900	other perennial grasses		10
				slender wheatgrass		10
				spike fescue		10
				Columbia needlegrass		5
				sedge		5
				other perennial forbs		5
				mountain big sagebrush		15
				snowberry		5
1435: Haunchee-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	600	muttongrass		5
				needleandthread		5
				needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		15
				other shrubs		5
	snowberry		5			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Cavehill-----	F028BY058NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	300	muttongrass	10	
		UNFAVORABLE	200	basin wildrye	2	
				other perennial grasses	2	
				other perennial forbs	3	
				mountain big sagebrush	25	
				antelope bitterbrush	10	
				curlleaf mountainmahogany	10	
				serviceberry	10	
				snowberry	10	
	singleleaf pinyon	5				
	Utah juniper	1				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Eganroc-----	F028BY049NV	FAVORABLE	400	muttongrass	15		
		NORMAL	300	bluebunch wheatgrass	10		
		UNFAVORABLE	200	other perennial grasses	5		
				goldenweed	5		
				other perennial forbs	5		
				mountain big sagebrush	20		
				Oregongrape	5		
				other shrubs	5		
				Great Basin bristlecone pine	10		
				limber pine	10		
white fir	5						
Hyzen-----	F028BY060NV	FAVORABLE	500	bluebunch wheatgrass	15		
		NORMAL	300	Indian ricegrass	10		
		UNFAVORABLE	250	bluegrass	10		
				bottlebrush squirreltail	10		
				Thurber's needlegrass	5		
				other perennial grasses	5		
				other perennial forbs	5		
				black sagebrush	15		
				Stansbury cliffrose	5		
				curlleaf mountainmahogany	5		
				other shrubs	5		
				singleleaf pinyon	5		
				Utah juniper	2		
1470: Tybo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20	
		NORMAL	700	desert needlegrass		15	
		UNFAVORABLE	450	bush muhly	5		
				galleta	5		
				other perennial grasses	5		
				other perennial forbs	5		
				other shrubs	5		
				spiny hopsage	20		
				Nevada ephedra	5		
				fourwing saltbush	5		
				winterfat	5		
				bud sagebrush	2		
				Koyen-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900
NORMAL	700	desert needlegrass				15	
UNFAVORABLE	450	bush muhly	5				
		galleta	5				
		other perennial grasses	5				
		other perennial forbs	5				
		other shrubs	5				
		spiny hopsage	20				
		Nevada ephedra	5				
		fourwing saltbush	5				
		winterfat	5				
		bud sagebrush	2				
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40	
		NORMAL	450	galleta		5	
		UNFAVORABLE	300	bottlebrush squirreltail	3		
				other perennial forbs	2		
				winterfat	25		
				bud sagebrush	5		
				fourwing saltbush	5		
other shrubs	5						
other perennial grasses	3						

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Delamar-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
winterfat		5				
bud sagebrush		2				
Leo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
winterfat		5				
bud sagebrush		2				
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1473: Tybo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
NORMAL		700	desert needlegrass		15	
UNFAVORABLE		450	bush muhly		5	
			galleta		5	
			other perennial grasses		5	
			other perennial forbs		5	
			other shrubs		5	
			spiny hopsage		20	
			Nevada ephedra		5	
			fourwing saltbush		5	
winterfat		5				
bud sagebrush		2				
Leo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
winterfat		5				
bud sagebrush		2				
Koyen-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
winterfat		5				
bud sagebrush		2				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Delamar-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
				winterfat		5
				bud sagebrush		2
1475: Treadwell-----	SHALLOW COBBLY LOAM (R029XY161NV)	FAVORABLE	400	Indian ricegrass		35
		NORMAL	300	galleta		10
		UNFAVORABLE	200	other perennial grasses		8
				other perennial forbs		5
				spiny menodora		20
				Nevada ephedra		10
				other shrubs		5
Treadwell-----	ERODED SLOPE (R029XY162NV)	FAVORABLE	175	Indian ricegrass		10
		NORMAL	125	other perennial grasses		5
		UNFAVORABLE	75	other perennial forbs		5
				Nevada dalea		30
				rubber rabbitbrush		30
				Nevada ephedra		10
				other shrubs		5
Veet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Jericho-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
1485: Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10		
		NORMAL	350	basin wildrye	5		
		UNFAVORABLE	250	muttongrass	5		
				other perennial grasses	5		
				other perennial forbs	5		
				mountain big sagebrush	20		
				Utah serviceberry	10		
				antelope bitterbrush	10		
				curl-leaf mountain mahogany	10		
				snowberry	10		
other shrubs	5						
singleleaf pinyon	5						
Highup-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20	
		NORMAL	1800	muttongrass		5	
		UNFAVORABLE	1200	other perennial grasses		5	
				Columbia needlegrass		2	
				Letterman needlegrass		2	
				other perennial forbs		5	
				curl-leaf mountain mahogany		40	
				mountain big sagebrush		10	
				other shrubs		5	
				other trees		5	
Eganroc-----	F028AY085NV	FAVORABLE	400	other perennial grasses	10		
		NORMAL	300	bluebunch wheatgrass	5		
		UNFAVORABLE	200	muttongrass		5	
				goldenweed		10	
				other perennial forbs		10	
				mountain big sagebrush		20	
				Oregongrape		15	
				other shrubs		10	
				other trees		5	
				white fir		5	
Faleria-----	F029XY086NV	FAVORABLE	700	muttongrass	10		
		NORMAL	500	other perennial grasses	10		
		UNFAVORABLE	300	bottlebrush squirreltail		5	
				other perennial forbs		10	
				Gambel's oak		15	
				Utah serviceberry		15	
				greenleaf manzanita		10	
other shrubs		10					
mountain big sagebrush		5					
ponderosa pine		5					
Badhap-----	LOAMY SLOPE 16+ P.Z. (R028AY068NV)	FAVORABLE	1700	bluebunch wheatgrass		25	
		NORMAL	1200	slender wheatgrass		15	
		UNFAVORABLE	900	Letterman needlegrass		5	
				mountain brome		5	
				nodding brome		5	
				other perennial grasses		5	
				Nevada bluegrass		3	
				other perennial forbs		5	
				mountain big sagebrush		10	
				Utah serviceberry		5	
				other shrubs		5	
				snowberry		5	
				muttongrass		2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Hardol-----	MOUNTAIN SLOPE 12-14 P.Z. (R029XY138NV)	FAVORABLE	900	muttongrass		20
		NORMAL	600	blue grama		10
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		25
				Utah serviceberry		10
				curlleaf mountainmahogany		10
				other shrubs		5
				other trees		3
1501: Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		10
				Utah juniper		5
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Utah serviceberry	10	
				antelope bitterbrush	10	
				curl-leaf mountain mahogany	10	
				snowberry	10	
				other shrubs	5	
				singleleaf pinyon	5	
Highup-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20
		NORMAL	1800	muttongrass		5
		UNFAVORABLE	1200	other perennial grasses		5
				Columbia needlegrass		2
				Letterman needlegrass		2
				other perennial forbs		5
				curl-leaf mountain mahogany		40
				mountain big sagebrush		10
				other shrubs		5
				other trees		5
Amtoft-----	CALCAREOUS MOUNTAIN RIDGE (R028AY096NV)	FAVORABLE	350	bluebunch wheatgrass		35
		NORMAL	200	muttongrass		10
		UNFAVORABLE	100	other perennial grasses		5
				pine needlegrass		5
				other perennial forbs		10
				black sagebrush		25
				other shrubs		5
Radol-----	CALCAREOUS FAN PIEDMONT 10-14 P.Z. (R028AY087NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				wild crab apple		5
				Stansbury cliffrose		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Pamsdel-----	LOAMY FAN PIEDMONT (R028AY127NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	650	bluegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		10
				big sagebrush		25
				Stansbury cliffrose		10
				other shrubs		5
				wild crab apple		5
				singleleaf pinyon		2
1502: Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
	wild crab apple	5				
	Utah juniper	5				
	singleleaf pinyon	5				
Logring-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
	wild crab apple	5				
	Utah juniper	5				
	singleleaf pinyon	5				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Wambolt-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20
		NORMAL	1800	muttongrass		5
		UNFAVORABLE	1200	other perennial grasses		5
				Columbia needlegrass		2
				Letterman needlegrass		2
				other perennial forbs		5
				curl-leaf mountain mahogany		40
	mountain big sagebrush		10			
	other shrubs		5			
	other trees		5			
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Utah serviceberry	10	
				antelope bitterbrush	10	
				curl-leaf mountain mahogany	10	
				snowberry	10	
	other shrubs	5				
	singleleaf pinyon	5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Kyler-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
1510: Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Jarab-----	CALCAREOUS FAN PIEDMONT 10-14 P.Z. (R028AY087NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				wild crab apple		5
				Stansbury cliffrose		3
Pamsdel-----	LOAMY FAN PIEDMONT (R028AY127NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	650	bluegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		10
				big sagebrush		25
				Stansbury cliffrose		10
				other shrubs		5
				wild crab apple		5
				singleleaf pinyon		2
Ravendog-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10
Ursine-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
1525: Ubehebe-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		10
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		8
				Utah juniper		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Penelas-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		10
				Utah juniper		5
Kyler-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
	Utah juniper		5			
Brier-----	CALCAREOUS FAN PIEDMONT 10-14 P.Z. (R028AY087NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				wild crab apple		5
	Stansbury cliffrose		3			
Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		10
	Utah juniper		5			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
1700: Garfan-----	COBBLY CLAYPAN 12-14 P.Z. (R028BY039NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	Sandberg bluegrass		5
				other perennial grasses		5
				other perennial forbs		10
				low sagebrush		30
				antelope bitterbrush		5
	other shrubs		5			
	other trees		3			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Garfan-----	COBBLY CLAYPAN 12-14 P.Z. (R028BY039NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	Sandberg bluegrass		5
				other perennial grasses		5
				other perennial forbs		10
				low sagebrush		30
				antelope bitterbrush		5
				other shrubs		5
				other trees		3
McIvey-----	LOAMY SLOPE 12-16 P.Z. (R028BY015NV)	FAVORABLE	1500	bluebunch wheatgrass		30
		NORMAL	1100	Thurber's needlegrass		5
		UNFAVORABLE	700	basin wildrye		5
				other perennial grasses		5
				western needlegrass		5
				muttongrass		2
				other perennial forbs		5
				arrowleaf balsamroot		3
				longleaf hawksbeard		2
				mountain big sagebrush		10
				Utah serviceberry		5
				antelope bitterbrush		5
				snowberry		5
				other shrubs		3
other trees				2		
Amelar-----	GRAVELLY CALCAREOUS LOAM 14+ P.Z. (R028BY091NV)	FAVORABLE	1200	bluebunch wheatgrass		20
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	700	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				Utah serviceberry		35
				mountain big sagebrush		10
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Birchcreek-----	LOAMY 12-16 P.Z. (R028BY030NV)	FAVORABLE	1500	bluebunch wheatgrass		35
		NORMAL	1200	Thurber's needlegrass		15
		UNFAVORABLE	900	basin wildrye		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		5
other shrubs		5				
Devilsgait-----	LOAMY BOTTOM 14+ P.Z. (R028BY024NV)	FAVORABLE	4000	basin wildrye		60
		NORMAL	2500	Nevada bluegrass		5
		UNFAVORABLE	1500	other perennial grasses		5
				slender wheatgrass		3
				thickspike wheatgrass		2
				other perennial forbs		5
				mountain big sagebrush		5
				other shrubs		5
willow		5				
1701: Suak-----	STONY MAHOGANY SAVANNA (R028BY032NV)	FAVORABLE	1300	bluebunch wheatgrass		10
		NORMAL	900	Indian ricegrass		5
		UNFAVORABLE	600	muttongrass		5
				needleandthread		5
				needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		15
				other shrubs		5
snowberry		5				
other trees		2				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Chen-----	CLAYPAN 12-14 P.Z. (R028BY037NV)	FAVORABLE	800	bluebunch wheatgrass		20	
		NORMAL	600	Sandberg bluegrass		5	
		UNFAVORABLE	400	Thurber's needlegrass		5	
				muttongrass		5	
				other perennial grasses		5	
				pine needlegrass		5	
				western needlegrass		5	
				other perennial forbs		5	
				low sagebrush		25	
				other shrubs		7	
	antelope bitterbrush		5				
	other trees		3				
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				
Hardzem-----	F028BY063NV	FAVORABLE	800	spike fescue	15		
		NORMAL	500	bluebunch wheatgrass	5		
			UNFAVORABLE	300	muttongrass	5	
					other perennial grasses	5	
					goldenweed	5	
					other perennial forbs	5	
					Oregongrape	20	
					common juniper	20	
					mountain big sagebrush	5	
					other shrubs	5	
					white fir	5	
					Great Basin bristlecone pine	2	
	limber pine	2					
McIvey-----	LOAMY SLOPE 12-16 P.Z. (R028BY015NV)	FAVORABLE	1500	bluebunch wheatgrass		30	
		NORMAL	1100	Thurber's needlegrass		5	
			UNFAVORABLE	700	basin wildrye		5
					other perennial grasses		5
					western needlegrass		5
					muttongrass		2
					other perennial forbs		5
					arrowleaf balsamroot		3
					longleaf hawksbeard		2
					mountain big sagebrush		10
					Utah serviceberry		5
					antelope bitterbrush		5
					snowberry		5
					other shrubs		3
					other trees		2
Segura-----	GRAVELLY CLAY 12-14 P.Z. (R028BY087NV)	FAVORABLE	900	bluebunch wheatgrass		30	
		NORMAL	700	Thurber's needlegrass		15	
			UNFAVORABLE	450	basin wildrye		5
					other perennial grasses		5
					Canby bluegrass		3
					Sandberg bluegrass		2
					other perennial forbs		5
					crag aster		3
					longleaf hawksbeard		2
					mountain big sagebrush		15
	antelope bitterbrush		5				
	other shrubs		5				
	other trees		2				
Rubble land----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1730: Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Devildog-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
1731: Cath-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Heist-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Plegomir-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
1732: Cath-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Watoopah-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				other shrubs		5
				shadscale		5
Heist-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1733: Cath-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Watoopah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Escalante-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Heist-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Linoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
				other shrubs		5
1810: Boxspring-----	SHALLOW GRAVELLY LOAM 8-10 P.Z. (R029XY077NV)	FAVORABLE	700	desert needlegrass		5
		NORMAL	500	other perennial grasses		4
		UNFAVORABLE	300	Indian ricegrass		3
				galleta		3
				other perennial forbs		5
				blackbrush		65
				Nevada ephedra		5
				desert bitterbrush		5
				other shrubs		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Wyva-----	LOAMY SLOPE 10-12 P.Z. (R029XY075NV)	FAVORABLE	700	Indian ricegrass		15
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	other perennial grasses		5
				galleta		3
				blue grama		2
				other perennial forbs		5
				big sagebrush		30
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
other shrubs		5				
St. Thomas-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other annual forbs		5
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
creosotebush		5				
Zaqua-----	SHALLOW GRAVELLY LOAM 8-10 P.Z. (R029XY077NV)	FAVORABLE	700	desert needlegrass		5
		NORMAL	500	other perennial grasses		4
		UNFAVORABLE	300	Indian ricegrass		3
				galleta		3
				other perennial forbs		5
				blackbrush		65
				Nevada ephedra		5
				desert bitterbrush		5
other shrubs		5				
1880: Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
		NORMAL	600	other perennial grasses		6
		UNFAVORABLE	400	Indian ricegrass		4
				needleandthread		4
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		8
				green ephedra		5
other shrubs		5				
Pintwater-----	BOULDERY SLOPE 5-8 P.Z. (R029XY085NV)	FAVORABLE	800	desert needlegrass		25
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				green ephedra		20
				California buckwheat		5
				Mohave eriogonum		5
				desert snowberry		5
				fourwing saltbush		5
other shrubs		5				
other trees		3				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Stewval-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
other trees		2				
Farepeak-----	F029XY095NV	FAVORABLE	350	muttongrass	20	
		NORMAL	200	other perennial grasses	10	
		UNFAVORABLE	150	Sandberg bluegrass		5
				Thurber's needlegrass		5
				bottlebrush squirreltail		5
				other perennial forbs		10
				mountain big sagebrush		15
				other shrubs		10
				Stansbury cliffrose		5
				Utah juniper		5
singleleaf pinyon		5				
Littleailie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				
1881: Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
NORMAL		600	other perennial grasses		6	
UNFAVORABLE		400	Indian ricegrass		4	
			needleandthread		4	
			other perennial forbs		5	
			big sagebrush		20	
			Stansbury cliffrose		8	
			green ephedra		5	
			other shrubs		5	
			Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500
NORMAL	350	needleandthread			10	
UNFAVORABLE	250	desert needlegrass			5	
		galleta			3	
		other perennial grasses			3	
		Sandberg bluegrass			2	
		other perennial forbs			5	
		Wyoming big sagebrush			35	
		Nevada ephedra			5	
		other shrubs			5	
fourwing saltbush		4				
Rock outcrop----	---	---				
	NORMAL	---				
	UNFAVORABLE	---				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15	
		NORMAL	200	needleandthread		10	
		UNFAVORABLE	75	galleta		5	
					other perennial grasses		5
				other perennial forbs		5	
				black sagebrush		40	
				other shrubs		15	
				Nevada ephedra		4	
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30	
		NORMAL	800	desert needlegrass		5	
		UNFAVORABLE	500	galleta		5	
					needleandthread		5
					other perennial grasses		5
					other perennial forbs		3
					desert globemallow		2
					other annual forbs		2
					Wyoming big sagebrush		25
					fourwing saltbush		5
					other shrubs		5
			winterfat		5		
Cath-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30	
		NORMAL	600	needleandthread		10	
		UNFAVORABLE	300	other perennial grasses		6	
					desert needlegrass		5
					other perennial forbs		2
					Wyoming big sagebrush		30
					fourwing saltbush		4
					other shrubs		4
		Utah juniper		1			
Mosida-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10	
		NORMAL	700	Sandberg bluegrass		6	
		UNFAVORABLE	500	other perennial grasses		6	
					galleta		2
					other perennial forbs		5
					big sagebrush		30
					desert peach		15
					other shrubs		10
		rubber rabbitbrush		10			
1882: Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40	
		NORMAL	600	other perennial grasses		6	
		UNFAVORABLE	400	Indian ricegrass		4	
					needleandthread		4
					other perennial forbs		5
					big sagebrush		20
					Stansbury cliffrose		8
		green ephedra		5			
		other shrubs		5			
Richinde-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30	
		NORMAL	600	needleandthread		10	
		UNFAVORABLE	300	other perennial grasses		6	
					desert needlegrass		5
					other perennial forbs		2
					Wyoming big sagebrush		30
					fourwing saltbush		4
					other shrubs		4
		Utah juniper		1			
Rock outcrop----	----	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
		other shrubs		5		
		winterfat		5		
1885:						
Richinde-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
		winterfat		2		
Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
		NORMAL	600	other perennial grasses		6
		UNFAVORABLE	400	Indian ricegrass		4
				needleandthread		4
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		8
				green ephedra		5
				other shrubs		5
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Lomoin-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R029XY015NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	200	galleta		4
		UNFAVORABLE	100	needleandthread		4
				other perennial grasses		2
				other perennial forbs		5
				Stansbury cliffrose		30
				black sagebrush		20
				Nevada ephedra		5
				other shrubs		5
				other trees		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
	other shrubs		5			
	winterfat		5			
1900: Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				ephedra		2
				spiny greasebush		2
	other trees		2			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
	ephedra		5			
	fourwing saltbush		5			
	other shrubs		5			
	other trees		10			
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
	singleleaf pinyon	7				
	Utah juniper	5				
Amtoft-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
	other trees		2			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Amtoft-----	STONY CALCAREOUS HILL (R029XY099NV)	FAVORABLE	600	Indian ricegrass		20
		NORMAL	400	needleandthread		5
		UNFAVORABLE	250	other perennial grasses		5
				galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				black sagebrush		35
				Fremont's mahonia		5
				Nevada ephedra		5
				other shrubs		5
				spiny greasebush		2
	other trees		5			
1910: Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Lodar-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
	singleleaf pinyon	7				
	Utah juniper	5				
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				ephedra		2
	spiny greasebush		2			
	other trees		2			
Eganroc-----	F029XY096NV	FAVORABLE	300	muttongrass	15	
		NORMAL	200	other perennial grasses	10	
		UNFAVORABLE	150	Sandberg bluegrass	5	
				Thurber's needlegrass	5	
				bottlebrush squirreltail	5	
				spike fescue	5	
				other perennial forbs	10	
				Utah serviceberry	10	
				other shrubs	10	
				mountain big sagebrush	5	
				white fir	10	
	singleleaf pinyon	5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Amtoft-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
other trees		2				
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		35
				antelope bitterbrush		5
				buckwheat		5
				other shrubs		5
				singleleaf pinyon		7
				Utah juniper		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1920: Eganroc-----	F029XY096NV	FAVORABLE	300	muttongrass	15	
		NORMAL	200	other perennial grasses	10	
		UNFAVORABLE	150	Sandberg bluegrass		5
				Thurber's needlegrass		5
				bottlebrush squirreltail		5
				spike fescue		5
				other perennial forbs		10
				Utah serviceberry		10
				other shrubs		10
				mountain big sagebrush		5
white fir		10				
singleleaf pinyon		5				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
ephedra		5				
fourwing saltbush		5				
other shrubs		5				
other trees		10				
Lodar-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		35
				antelope bitterbrush		5
				buckwheat		5
				other shrubs		5
				singleleaf pinyon		7
				Utah juniper		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				ephedra		2
				spiny greasebush		2
other trees		2				
1922: Lodar-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
NORMAL		300	Sandberg bluegrass	5		
UNFAVORABLE		150	other perennial grasses	5		
			other perennial forbs	5		
			black sagebrush	35		
			antelope bitterbrush	5		
			buckwheat	5		
			other shrubs	5		
			singleleaf pinyon	7		
			Utah juniper	5		
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				ephedra		2
				spiny greasebush		2
other trees		2				
Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
other trees		10				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eganroc-----	F029XY096NV	FAVORABLE	300	muttongrass	15	
		NORMAL	200	other perennial grasses	10	
		UNFAVORABLE	150	Sandberg bluegrass	5	
				Thurber's needlegrass	5	
				bottlebrush squirreltail	5	
				spike fescue	5	
				other perennial forbs	10	
				Utah serviceberry	10	
				other shrubs	10	
				mountain big sagebrush	5	
		white fir	10			
		singleleaf pinyon	5			
Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
		Nevada ephedra		4		
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
1930: Nuhelen-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
		other trees		10		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Gabbvally-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
1940: Chubard-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
				other trees		2
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Tejabe-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
		NORMAL	600	other perennial grasses		6
		UNFAVORABLE	400	Indian ricegrass		4
				needleandthread		4
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		8
				green ephedra		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Vinini-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
	winterfat		2			
Stewval-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
	other trees		2			
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
1942: Richinde-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
NORMAL	600	needleandthread		10		
	UNFAVORABLE	300	other perennial grasses		6	
		desert needlegrass		5		
		other perennial forbs		2		
		Wyoming big sagebrush		30		
		fourwing saltbush		4		
		other shrubs		4		
		Utah juniper		1		
Chubard-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R029XY015NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	200	galleta		4
		UNFAVORABLE	100	needleandthread		4
				other perennial grasses		2
				other perennial forbs		5
				Stansbury cliffrose		30
				black sagebrush		20
				Nevada ephedra		5
				other shrubs		5
				other trees		10
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
	winterfat		2			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
fourwing saltbush		4				
Ravendog-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
other shrubs		5				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Handpah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
1945: Chubard-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Richinde-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Sevenmile-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
winterfat		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
1946:						
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
		Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass
NORMAL	500			needleandthread		10
UNFAVORABLE	250			other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Rock outcrop----	---			FAVORABLE	---	
		NORMAL	---			
		UNFAVORABLE	---			
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
		Farepeak-----	F029XY069NV	FAVORABLE	400	muttongrass
NORMAL	300			Sandberg bluegrass	5	
UNFAVORABLE	150			other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition				
		Kind of year	Dry weight		Forest	Range			
			Lb/acre		Pct	Pct			
Hardzem-----	F029XY096NV	FAVORABLE	300	muttongrass	15				
		NORMAL	200	other perennial grasses	10				
		UNFAVORABLE	150	Sandberg bluegrass	5				
				Thurber's needlegrass	5				
				bottlebrush squirreltail	5				
				spike fescue	5				
				other perennial forbs	10				
				Utah serviceberry	10				
				other shrubs	10				
				mountain big sagebrush	5				
	white fir	10							
	singleleaf pinyon	5							
1949:									
Richinde-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20			
		NORMAL	600	needleandthread		20			
		UNFAVORABLE	400	galleta	5				
				other perennial grasses	5				
				Sandberg bluegrass	3				
				bottlebrush squirreltail	2				
				other perennial forbs	5				
				Wyoming big sagebrush	20				
				other shrubs	5				
				spiny hopsage	5				
	winterfat	5							
Chubard-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20			
		NORMAL	500	needleandthread		15			
		UNFAVORABLE	300	galleta	5				
				other perennial grasses	5				
				sand dropseed	5				
				other perennial forbs	5				
				black sagebrush	25				
				fourwing saltbush	5				
				other shrubs	5				
				winterfat	5				
Chubard-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20			
		NORMAL	325	galleta		5			
		UNFAVORABLE	150	other perennial grasses	5				
				other perennial forbs	5				
				black sagebrush	45				
				other shrubs	10				
				Utah juniper	5				
			Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
					NORMAL	800	Indian ricegrass		10
					UNFAVORABLE	600	needleandthread	5	
	other perennial grasses	5							
	thickspike wheatgrass	5							
	other perennial forbs	5							
	Wyoming big sagebrush	30							
	winterfat	10							
	other shrubs	5							
Rock outcrop----	---	FAVORABLE				---			
		NORMAL	---						
		UNFAVORABLE	---						
Handpah-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20			
		NORMAL	600	needleandthread		20			
		UNFAVORABLE	400	galleta	5				
				other perennial grasses	5				
				Sandberg bluegrass	3				
				bottlebrush squirreltail	2				
				other perennial forbs	5				
				Wyoming big sagebrush	20				
				other shrubs	5				
				spiny hopsage	5				
	winterfat	5							

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
1955: Treadwell-----	SHALLOW COBBLY LOAM (R029XY161NV)	FAVORABLE NORMAL UNFAVORABLE	400 300 200	Indian ricegrass galleta other perennial grasses other perennial forbs spiny menodora Nevada ephedra other shrubs		35 10 8 5 20 10 5
Chuckridge-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 250	Indian ricegrass needleandthread other perennial grasses Sandberg bluegrass galleta other perennial forbs black sagebrush other shrubs fourwing saltbush Nevada ephedra winterfat		30 10 5 3 2 5 30 5 3 2 2
Handpah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 300	Indian ricegrass needleandthread other perennial grasses desert needlegrass other perennial forbs Wyoming big sagebrush fourwing saltbush other shrubs Utah juniper		30 10 6 5 2 30 4 4 1
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE NORMAL UNFAVORABLE	1100 800 500	Indian ricegrass desert needlegrass galleta needleandthread other perennial grasses other perennial forbs desert globemallow other annual forbs Wyoming big sagebrush fourwing saltbush other shrubs winterfat		30 5 5 5 5 3 2 2 25 5 5 5
Tybo-----	SHALLOW DROUGHTY LOAM 5-8 P.Z. (R029XY031NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Indian ricegrass desert needlegrass galleta other perennial grasses bush muhly other perennial forbs spiny hopsage spiny menodora Anderson's wolfberry Nevada ephedra bud sagebrush other shrubs winterfat		15 5 5 5 2 5 20 15 5 5 5 5 3
1957: Malmesa-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 250	Indian ricegrass needleandthread desert needlegrass galleta other perennial grasses Sandberg bluegrass other perennial forbs Wyoming big sagebrush Nevada ephedra other shrubs fourwing saltbush		20 10 5 3 3 2 5 35 5 5 4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nevoyer-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Treadwell-----	SHALLOW COBBLY LOAM (R029XY161NV)	FAVORABLE	400	Indian ricegrass		35
		NORMAL	300	galleta		10
		UNFAVORABLE	200	other perennial grasses		8
				other perennial forbs		5
				spiny menodora		20
				Nevada ephedra		10
				other shrubs		5
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
1958:						
Nevoyer-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Lomoin-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
				other trees		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Tejabe-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
		NORMAL	600	other perennial grasses		6
		UNFAVORABLE	400	Indian ricegrass		4
				needleandthread		4
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		8
				green ephedra		5
				other shrubs		5
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Beelem-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
1959: Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Chubard-----	STONY CALCAREOUS SLOPE 8-12 P.Z. (R029XY045NV)	FAVORABLE	700	desert needlegrass		25
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				galleta		3
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				fourwing saltbush		5
				banana yucca		3
				other shrubs		3
				other trees		2
Treadwell-----	SHALLOW COBBLY LOAM (R029XY161NV)	FAVORABLE	400	Indian ricegrass		35
		NORMAL	300	galleta		10
		UNFAVORABLE	200	other perennial grasses		8
				other perennial forbs		5
				spiny menodora		20
				Nevada ephedra		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
		NORMAL	600	other perennial grasses		6
		UNFAVORABLE	400	Indian ricegrass		4
				needleandthread		4
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		8
				green ephedra		5
				other shrubs		5
1960:						
Devildog-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Devildog-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Lojet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
1989:						
Gabbvally-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Stewval-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1990: Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
2000:						
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
2010:						
Chuffa-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
Chuffa-----	SILT FLAT (R028AY001NV)	FAVORABLE	450	bottlebrush squirreltail		10
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		60
				greenmolly kochia		5
				other shrubs		5
Ragnel-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
Kolda-----	WET MEADOW 10-14 P.Z. (R028BY001NV)	FAVORABLE	4000	sedge		25
		NORMAL	2000	alkali bluegrass		20
		UNFAVORABLE	1200	Nevada bluegrass		15
				basin wildrye		5
				mat muhly		5
				other perennial grasses		5
				rush		5
				other perennial forbs		5
				groundsel		3
				cinquefoil		2
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition				
		Kind of year	Dry weight		Forest	Range			
			Lb/acre		Pct	Pct			
Duffer-----	SALINE MEADOW (R028BY002NV)	FAVORABLE	1500	alkali sacaton		40			
		NORMAL	1000	alkali cordgrass		10			
		UNFAVORABLE	700	Baltic rush		5			
				alkaligrass		5			
				bluegrass		5			
				inland saltgrass		5			
				other perennial grasses		5			
				sedge		5			
				other perennial forbs		10			
				other shrubs		5			
2020: Yobe-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15			
		NORMAL	600	Indian ricegrass		5			
		UNFAVORABLE	400	other perennial grasses		5			
				other perennial forbs		5			
				black greasewood		35			
				big sagebrush		20			
				greenmolly kochia		5			
				other shrubs		5			
			Yobe-----	SALINE MEADOW (R028AY105NV)	FAVORABLE	1500	alkali sacaton		45
					NORMAL	1000	alkali cordgrass		10
UNFAVORABLE	700	Baltic rush				5			
		alkali bluegrass				5			
		alkaligrass				5			
		inland saltgrass				5			
		other perennial grasses				5			
		sedge				5			
		King's ivesia				5			
		other perennial forbs				5			
	other shrubs		5						
Kawich-----	SODIC DUNE (R028AY011NV)	FAVORABLE	700	Indian ricegrass		30			
		NORMAL	500	alkali sacaton		5			
		UNFAVORABLE	350	other perennial grasses		3			
				thickspike wheatgrass		3			
				bottlebrush squirreltail		2			
				other perennial forbs		2			
				fourwing saltbush		30			
				black greasewood		10			
				other shrubs		5			
				spiny hopsage		5			
Springbar-----	SANDY 8-10 P.Z. (R028AY005NV)	FAVORABLE	1000	Indian ricegrass		25			
		NORMAL	700	needleandthread		15			
		UNFAVORABLE	400	other perennial grasses		5			
				thickspike wheatgrass		5			
				sand dropseed		3			
				galleta		2			
				western wheatgrass		2			
				other perennial forbs		5			
				Wyoming big sagebrush		15			
				fourwing saltbush		5			
	other shrubs		5						
	winterfat		5						
Devilsgait-----	DRY FLOODPLAIN (R028BY041NV)	FAVORABLE	1700	basin wildrye		60			
		NORMAL	1200	creeping wildrye		5			
		UNFAVORABLE	900	inland saltgrass		5			
				other perennial grasses		5			
				streambank wheatgrass		5			
				other perennial forbs		5			
				big sagebrush		5			
				black greasewood		2			
				rubber rabbitbrush		2			
				other shrubs		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2030: Teebone-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
Yobe-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
Pern-----	DRY FLOODPLAIN (R028BY041NV)	FAVORABLE	1700	basin wildrye		60
		NORMAL	1200	creeping wildrye		5
		UNFAVORABLE	900	inland saltgrass		5
				other perennial grasses		5
				streambank wheatgrass		5
				other perennial forbs		5
				big sagebrush		5
				black greasewood		2
				rubber rabbitbrush		2
				other shrubs		5
Kawich-----	SODIC DUNE (R028AY011NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	alkali sacaton		5
		UNFAVORABLE	350	other perennial grasses		3
				thickspike wheatgrass		3
				bottlebrush squirreltail		2
				other perennial forbs		2
				fourwing saltbush		30
				black greasewood		10
				other shrubs		5
				spiny hopsage		5
Benin-----	SODIC FLAT 8-10 P.Z. (R028BY069NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	inland saltgrass		5
		UNFAVORABLE	400	other perennial grasses		4
				bottlebrush squirreltail		2
				other perennial forbs		3
				Thelypodium		1
				black greasewood		60
				other shrubs		5
2041: Kolda-----	WET MEADOW 10-14 P.Z. (R028BY001NV)	FAVORABLE	4000	sedge		25
		NORMAL	2000	alkali bluegrass		20
		UNFAVORABLE	1200	Nevada bluegrass		15
				basin wildrye		5
				mat muhly		5
				other perennial grasses		5
				rush		5
				other perennial forbs		5
				groundsel		3
				cinquefoil		2
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Duffer-----	SALINE MEADOW (R028BY002NV)	FAVORABLE	1500	alkali sacaton		40
		NORMAL	1000	alkali cordgrass		10
		UNFAVORABLE	700	Baltic rush		5
				alkaligrass		5
				bluegrass		5
				inland saltgrass		5
				other perennial grasses		5
				sedge		5
				other perennial forbs		10
				other shrubs		5
Badena-----	LOAMY 10-12 P.Z. (R028AY095NV)	FAVORABLE	1000	needleandthread		25
		NORMAL	800	bluebunch wheatgrass		15
		UNFAVORABLE	600	Indian ricegrass		10
				other perennial grasses		5
				Thurber's needlegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		25
				other shrubs		5
				other trees		2
Raph-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		40
				black greasewood		25
				bud sagebrush		5
				other shrubs		5
Bigspring-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
2050: Ragnel-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
	winterfat		5			
Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
	winterfat		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				
2060: Crestline-----	SILT FLAT (R028AY001NV)	FAVORABLE	450	bottlebrush squirreltail		10		
		NORMAL	325	Sandberg bluegrass		5		
		UNFAVORABLE	150	other perennial grasses		5		
				other perennial forbs		5		
				Wyoming big sagebrush		60		
				greenmolly kochia		5		
				other shrubs		5		
		Crestline-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
				NORMAL	600	needleandthread		20
				UNFAVORABLE	400	galleta		5
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				
Veet-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				
Ragnel-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				
Zoda-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20		
		NORMAL	600	needleandthread		20		
		UNFAVORABLE	400	galleta		5		
				other perennial grasses		5		
				Sandberg bluegrass		3		
				bottlebrush squirreltail		2		
				other perennial forbs		5		
				Wyoming big sagebrush		20		
				other shrubs		5		
				spiny hopsage		5		
		winterfat		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2061: Crestline-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Linoyer-----	SILT FLAT (R028AY001NV)	FAVORABLE	450	bottlebrush squirreltail		10
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		60
				greenmolly kochia		5
				other shrubs		5
Veet-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Zoda-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Cath-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Ravendog-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2071: Chuffa-----	SILT FLAT (R028AY001NV)	FAVORABLE	450	bottlebrush squirreltail		10
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		60
				greenmolly kochia		5
				other shrubs		5
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Chuffa-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
Benin-----	SODIC FLAT 8-10 P.Z. (R028BY069NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	inland saltgrass		5
		UNFAVORABLE	400	other perennial grasses		4
				bottlebrush squirreltail		2
				other perennial forbs		3
				Thelypodium		1
				black greasewood		60
				other shrubs		5
2100: Glotrain-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
				winterfat		5
				bud sagebrush		2
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Devildog-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Koyen-----	LOAMY UPLAND 5-8 P.Z. (R029XY016NV)	FAVORABLE	1000	Indian ricegrass		35
		NORMAL	700	galleta		4
		UNFAVORABLE	500	other perennial forbs		4
				spiny hopsage		25
				fourwing saltbush		10
				Nevada ephedra		5
				Anderson's wolfberry		4
				bud sagebrush		4
				winterfat		4
2120: Sevenmile-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Gardenvalley----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
				other shrubs		5
Pahranagat-----	LOAMY BOTTOM 8-12 P.Z. (R029XY003NV)	FAVORABLE	3000	basin wildrye		50
		NORMAL	2000	beardless wildrye		10
		UNFAVORABLE	800	western wheatgrass		10
				other perennial grasses		8
				other perennial forbs		5
				basin big sagebrush		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2122: Lojet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Littleailie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Littleailie----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
Devildog-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
2123: Littleailie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Lojet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Gardenvalley----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
2280: Granquin-----	F029XY068NV	FAVORABLE	500	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	7	
				low sagebrush	35	
				other shrubs	10	
				Utah serviceberry	5	
				singleleaf pinyon	5	
				Utah juniper	3	
Schoolmarm-----	CLAYPAN 12-16 P.Z. (R029XY055NV)	FAVORABLE	600	Thurber's needlegrass		25
		NORMAL	400	muttongrass		10
		UNFAVORABLE	250	Indian ricegrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				low sagebrush		30
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Starflyer-----	GRAVELLY CLAY SLOPE 10-12 P.Z. (R029XY106NV)	FAVORABLE	700	Thurber's needlegrass		20
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	250	muttongrass		5
			needleandthread		5	
			other perennial grasses		5	
			blue grama		2	
			other perennial forbs		5	
			big sagebrush		25	
			antelope bitterbrush		5	
			green ephedra		5	
other shrubs		5				
Schoolmarm-----	MOUNTAIN RIDGE 16+ P.Z. (R029XY053NV)	FAVORABLE	400	needlegrass		20
		NORMAL	250	bluegrass		10
		UNFAVORABLE	100	other perennial grasses		5
			prairie Junegrass		3	
			other perennial forbs		5	
			goldenweed		3	
			low sagebrush		40	
			fringed sagewort		5	
			other shrubs		5	
			Douglas rabbitbrush		3	
Cagas-----	F029XY095NV	FAVORABLE	350	muttongrass	20	
		NORMAL	200	other perennial grasses	10	
		UNFAVORABLE	150	Sandberg bluegrass	5	
			Thurber's needlegrass	5		
			bottlebrush squirreltail	5		
			other perennial forbs	10		
			mountain big sagebrush	15		
			other shrubs	10		
			Stansbury cliffrose	5		
			Utah juniper	5		
singleleaf pinyon	5					
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
2283: Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
			other perennial grasses		5	
			other perennial forbs		5	
			black sagebrush		25	
			Stansbury cliffrose		5	
			ephedra		5	
			fourwing saltbush		5	
			other shrubs		5	
other trees		10				
Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
			galleta		3	
			other perennial grasses		3	
			Sandberg bluegrass		2	
			other perennial forbs		5	
			Wyoming big sagebrush		35	
			Nevada ephedra		5	
			other shrubs		5	
fourwing saltbush		4				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Devildog-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
2284: Starflyer-----	LOAMY 10-12 P.Z. (R029XY029NV)	FAVORABLE	1100	needleandthread		25
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	600	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		5
				fourwing saltbush		5
				other shrubs		5
				other trees		3
Starflyer-----	GRAVELLY CLAY SLOPE 10-12 P.Z. (R029XY106NV)	FAVORABLE	700	Thurber's needlegrass		20
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	250	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				blue grama		2
				other perennial forbs		5
				big sagebrush		25
				antelope bitterbrush		5
				green ephedra		5
				other shrubs		5
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Schoolmarm-----	CLAYPAN 12-16 P.Z. (R029XY055NV)	FAVORABLE	600	Thurber's needlegrass		25
		NORMAL	400	muttongrass		10
		UNFAVORABLE	250	Indian ricegrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				low sagebrush		30
				other shrubs		10
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
2285: Schoolmarm-----	CLAYPAN 12-16 P.Z. (R029XY055NV)	FAVORABLE	600	Thurber's needlegrass		25
		NORMAL	400	muttongrass		10
		UNFAVORABLE	250	Indian ricegrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				low sagebrush		30
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Starflyer-----	GRAVELLY CLAY SLOPE 10-12 P.Z. (R029XY106NV)	FAVORABLE	700	Thurber's needlegrass		20	
		NORMAL	400	Indian ricegrass		10	
		UNFAVORABLE	250	muttongrass		5	
				needleandthread		5	
				other perennial grasses		5	
				blue grama		2	
				other perennial forbs		5	
				big sagebrush		25	
				antelope bitterbrush		5	
				green ephedra		5	
	other shrubs		5				
Schoolmarm-----	CLAYPAN 12-16 P.Z. (R029XY055NV)	FAVORABLE	600	Thurber's needlegrass		25	
		NORMAL	400	muttongrass		10	
		UNFAVORABLE	250	Indian ricegrass		5	
				needleandthread		5	
				other perennial grasses		5	
				other perennial forbs		5	
				low sagebrush		30	
				other shrubs		10	
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				
Granquin-----	CLAYPAN 8-12 P. Z. (R029XY062NV)	FAVORABLE	500	desert needlegrass		20	
		NORMAL	300	Indian ricegrass		10	
		UNFAVORABLE	150	galleta		5	
				other perennial grasses		5	
				other perennial forbs		10	
				low sagebrush		30	
				bud sagebrush		5	
				other shrubs		5	
				other shrubs		5	
				winterfat		5	
Cagas-----	F029XY095NV	FAVORABLE	350	muttongrass	20		
		NORMAL	200	other perennial grasses	10		
		UNFAVORABLE	150	Sandberg bluegrass	5		
				Thurber's needlegrass	5		
				bottlebrush squirreltail	5		
				other perennial forbs	10		
				mountain big sagebrush	15		
				other shrubs	10		
				Stansbury cliffrose	5		
				Utah juniper	5		
	singleleaf pinyon	5					
Starflyer-----	LOAMY 10-12 P.Z. (R029XY029NV)	FAVORABLE	1100	needleandthread		25	
		NORMAL	800	Indian ricegrass		15	
		UNFAVORABLE	600	muttongrass		5	
				other perennial grasses		5	
				other perennial forbs		5	
				big sagebrush		20	
				Stansbury cliffrose		5	
				fourwing saltbush		5	
				other shrubs		5	
				other trees		3	
2286: Schoolmarm-----	CLAYPAN 12-16 P.Z. (R029XY055NV)	FAVORABLE	600	Thurber's needlegrass		25	
		NORMAL	400	muttongrass		10	
		UNFAVORABLE	250	Indian ricegrass		5	
				needleandthread		5	
				other perennial grasses		5	
				other perennial forbs		5	
				low sagebrush		30	
				other shrubs		10	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Starflyer-----	GRAVELLY CLAY SLOPE 10-12 P.Z. (R029XY106NV)	FAVORABLE	700	Thurber's needlegrass		20
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	250	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				blue grama		2
				other perennial forbs		5
				big sagebrush		25
				antelope bitterbrush		5
				green ephedra		5
				other shrubs		5
Granquin-----	F029XY068NV	FAVORABLE	500	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	7	
				low sagebrush	35	
				other shrubs	10	
				Utah serviceberry	5	
				singleleaf pinyon	5	
				Utah juniper	3	
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Lien-----	SHALLOW CLAY LOAM 8-12 P.Z. (R029XY104NV)	FAVORABLE	700	Indian ricegrass		15
		NORMAL	500	Thurber's needlegrass		10
		UNFAVORABLE	350	blue grama		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Nevada ephedra		5
				muttongrass		5
				other shrubs		5
				other trees		5
2287: Granquin-----	F029XY068NV	FAVORABLE	500	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	7	
				low sagebrush	35	
				other shrubs	10	
				Utah serviceberry	5	
				singleleaf pinyon	5	
				Utah juniper	3	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Schoolmarm-----	COBBLY CLAYPAN 12-14 P.Z. (R028BY039NV)	FAVORABLE	500	bluebunch wheatgrass		20		
		NORMAL	350	Thurber's needlegrass		10		
		UNFAVORABLE	200	Sandberg bluegrass		5		
				other perennial grasses		5		
				other perennial forbs		10		
				low sagebrush		30		
				antelope bitterbrush		5		
				other shrubs		5		
				other trees		3		
Richinde-----	LOAMY SLOPE 10-12 P.Z. (R029XY075NV)	FAVORABLE	700	Indian ricegrass		15		
		NORMAL	500	needleandthread		15		
		UNFAVORABLE	300	other perennial grasses		5		
				galleta		3		
						blue grama		2
						other perennial forbs		5
						big sagebrush		30
						Stansbury cliffrose		5
						ephedra		5
						fourwing saltbush		5
				other shrubs		5		
Starflyer-----	GRAVELLY CLAY SLOPE 10-12 P.Z. (R029XY106NV)	FAVORABLE	700	Thurber's needlegrass		20		
		NORMAL	400	Indian ricegrass		10		
		UNFAVORABLE	250	muttongrass		5		
				needleandthread		5		
						other perennial grasses		5
						blue grama		2
						other perennial forbs		5
						big sagebrush		25
						antelope bitterbrush		5
						green ephedra		5
				other shrubs		5		
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15		
		NORMAL	350	desert needlegrass		10		
		UNFAVORABLE	200	needleandthread		5		
				other perennial grasses		5		
						other perennial forbs		5
						black sagebrush		25
						Stansbury cliffrose		5
						ephedra		5
						fourwing saltbush		5
						other shrubs		5
				other trees		10		
2288:								
Schoolmarm-----	COBBLY CLAYPAN 12-14 P.Z. (R028BY039NV)	FAVORABLE	500	bluebunch wheatgrass		20		
		NORMAL	350	Thurber's needlegrass		10		
		UNFAVORABLE	200	Sandberg bluegrass		5		
				other perennial grasses		5		
				other perennial forbs		10		
				low sagebrush		30		
				antelope bitterbrush		5		
				other shrubs		5		
				other trees		3		
Granquin-----	F029XY068NV	FAVORABLE	500	muttongrass	20			
		NORMAL	300	Sandberg bluegrass	5			
		UNFAVORABLE	150	other perennial grasses	5			
				other perennial forbs	7			
						low sagebrush	35	
						other shrubs	10	
				Utah serviceberry	5			
				singleleaf pinyon	5			
				Utah juniper	3			
Rock outcrop----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Richinde-----	LOAMY SLOPE 10-12 P.Z. (R029XY075NV)	FAVORABLE	700	Indian ricegrass		15
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	other perennial grasses		5
				galleta		3
				blue grama		2
				other perennial forbs		5
				big sagebrush		30
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
	other shrubs		5			
Starflyer-----	GRAVELLY CLAY SLOPE 10-12 P.Z. (R029XY106NV)	FAVORABLE	700	Thurber's needlegrass		20
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	250	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				blue grama		2
				other perennial forbs		5
				big sagebrush		25
				antelope bitterbrush		5
				green ephedra		5
	other shrubs		5			
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
	other trees		10			
2290: Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
NORMAL		600	other perennial grasses		6	
UNFAVORABLE		400	Indian ricegrass		4	
			needleandthread		4	
			other perennial forbs		5	
			big sagebrush		20	
			Stansbury cliffrose		8	
			green ephedra		5	
			other shrubs		5	
Chubard-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R029XY015NV)	FAVORABLE	350	Indian ricegrass		10
		NORMAL	200	galleta		4
		UNFAVORABLE	100	needleandthread		4
				other perennial grasses		2
				other perennial forbs		5
				Stansbury cliffrose		30
				black sagebrush		20
				Nevada ephedra		5
	other shrubs		5			
	other trees		10			
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Richinde-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
2292:						
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Richinde-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Richinde-----	BOULDERY LOAM 8-12 P.Z. (R029XY073NV)	FAVORABLE	800	desert needlegrass		40
		NORMAL	600	other perennial grasses		6
		UNFAVORABLE	400	Indian ricegrass		4
				needleandthread		4
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		8
				green ephedra		5
				other shrubs		5
2296:						
Chubard-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Chubard-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Chubard-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	325	galleta		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		45
				other shrubs		10
				Utah juniper		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Richinde-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2297:						
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Ravendog-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10
2298:						
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
				other trees		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Richinde-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
fourwing saltbush		4				
Chubard-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R029XY081NV)	FAVORABLE	500	Indian ricegrass		15
		NORMAL	350	desert needlegrass		10
		UNFAVORABLE	200	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				ephedra		5
				fourwing saltbush		5
				other shrubs		5
other trees		10				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				
Nuhelen-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		35
				antelope bitterbrush		5
				buckwheat		5
other shrubs		5				
singleleaf pinyon		7				
Utah juniper		5				
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
Wyoming big sagebrush		20				
other shrubs		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2299: Chubard-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Richinde-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Lomoin-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
2301: Stewal-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Gabbvally-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Cath-----	LOAMY 10-12 P.Z. (R029XY029NV)	FAVORABLE	1100	needleandthread		25
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	600	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		20
				Stansbury cliffrose		5
				fourwing saltbush		5
				other shrubs		5
				other trees		3
Lomoin-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4
Rock outcrop---	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
2302:						
Chubard-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop---	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Gabbvally-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegress		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
				fourwing saltbush		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nuhelen-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Wrango-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
			2304: Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700
NORMAL	500	needleandthread				10
UNFAVORABLE	250	other perennial grasses				5
		Sandberg bluegrass				3
		galleta				2
		other perennial forbs				5
		black sagebrush				30
		other shrubs				5
		fourwing saltbush				3
		Nevada ephedra				2
	winterfat		2			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Downeyville-----	LOAMY SLOPE 5-8 P.Z. (R029XY022NV)	FAVORABLE	400	Indian ricegrass		10
		NORMAL	250	desert needlegrass		5
		UNFAVORABLE	100	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				shadscale		40
				Bailey greasewood		5
				Nevada ephedra		5
				bud sagebrush		5
				other shrubs		5
	winterfat		5			
Gabbvally-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	desert needlegrass		5
				galleta		3
				other perennial grasses		3
				Sandberg bluegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		35
				Nevada ephedra		5
				other shrubs		5
	fourwing saltbush		4			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nuhelen-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Wrango-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
		2305: Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass
NORMAL	500			needleandthread		10
UNFAVORABLE	250			other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
		winterfat		2		
Littleailie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
		winterfat		2		
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
		other shrubs		5		
		winterfat		5		
Littleailie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
		winterfat		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition				
		Kind of year	Dry weight		Forest	Range			
			Lb/acre		Pct	Pct			
Chubard-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30			
		NORMAL	500	needleandthread		10			
		UNFAVORABLE	250	other perennial grasses		5			
				Sandberg bluegrass		3			
				galleta		2			
				other perennial forbs		5			
				black sagebrush		30			
				other shrubs		5			
				fourwing saltbush		3			
				Nevada ephedra		2			
	winterfat		2						
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30			
		NORMAL	800	Indian ricegrass		20			
		UNFAVORABLE	600	needleandthread		5			
				other perennial grasses		5			
				western wheatgrass		5			
				other perennial forbs		5			
				Wyoming big sagebrush		20			
				other shrubs		5			
2311: Cliffdown-----	SANDY 5-8 P.Z. (R029XY012NV)	FAVORABLE	800	Indian ricegrass		50			
		NORMAL	500	other perennial grasses		5			
		UNFAVORABLE	300	sand dropseed		5			
				needleandthread		4			
				other perennial forbs		5			
				fourwing saltbush		20			
				other shrubs		5			
				winterfat		5			
			Nyala-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
					NORMAL	450	other perennial grasses		5
UNFAVORABLE	200	galleta				3			
		bottlebrush squirreltail				2			
		other perennial forbs				5			
		shadscale				30			
		bud sagebrush				10			
		winterfat				8			
		other shrubs				5			
	Fang-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)			FAVORABLE	700	Indian ricegrass		40
NORMAL			500	galleta		5			
UNFAVORABLE			300	bottlebrush squirreltail		2			
				other perennial grasses		2			
				other perennial forbs		4			
				globemallow		2			
				fourwing saltbush		20			
				winterfat		10			
				other shrubs		5			
				bud sagebrush		2			
	spiny hopsage		2						
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30			
		NORMAL	500	needleandthread		10			
		UNFAVORABLE	250	other perennial grasses		5			
				Sandberg bluegrass		3			
				galleta		2			
				other perennial forbs		5			
				black sagebrush		30			
				other shrubs		5			
				fourwing saltbush		3			
				Nevada ephedra		2			
	winterfat		2						

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
2312: Fang-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
spiny hopsage		2				
Nyala-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5
				Cliffdown-----	SANDY 5-8 P.Z. (R029XY012NV)	FAVORABLE
NORMAL	500	other perennial grasses		5		
UNFAVORABLE	300	sand dropseed		5		
		needleandthread		4		
		other perennial forbs		5		
		fourwing saltbush		20		
		other shrubs		5		
		winterfat		5		
Silent-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5
				Koyen-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE
NORMAL	700	desert needlegrass		15		
UNFAVORABLE	450	bush muhly		5		
		galleta		5		
		other perennial grasses		5		
		other perennial forbs		5		
		other shrubs		5		
		spiny hopsage		20		
		Nevada ephedra		5		
		fourwing saltbush		5		
		winterfat		5		
		bud sagebrush		2		
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
2320: Blackcan-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 250	Indian ricegrass needleandthread other perennial grasses Sandberg bluegrass galleta other perennial forbs black sagebrush other shrubs fourwing saltbush Nevada ephedra winterfat		30 10 5 3 2 5 30 5 3 2 2
Blackcan-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE NORMAL UNFAVORABLE	350 200 75	Indian ricegrass needleandthread galleta other perennial grasses other perennial forbs black sagebrush other shrubs Nevada ephedra		15 10 5 5 5 40 15 4
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE NORMAL UNFAVORABLE	700 450 300	Indian ricegrass galleta bottlebrush squirreltail other perennial forbs winterfat bud sagebrush fourwing saltbush other shrubs other perennial grasses		40 5 3 2 25 5 5 5 3
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE NORMAL UNFAVORABLE	1100 800 500	Indian ricegrass desert needlegrass galleta needleandthread other perennial grasses other perennial forbs desert globemallow other annual forbs Wyoming big sagebrush fourwing saltbush other shrubs winterfat		30 5 5 5 3 2 2 25 5 5 5
Riverwash-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Stewval-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE NORMAL UNFAVORABLE	350 200 75	Indian ricegrass needleandthread galleta other perennial grasses other perennial forbs black sagebrush other shrubs Nevada ephedra		15 10 5 5 5 40 15 4
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 250	Indian ricegrass needleandthread other perennial grasses Sandberg bluegrass galleta other perennial forbs black sagebrush other shrubs fourwing saltbush Nevada ephedra winterfat		30 10 5 3 2 5 30 5 3 2 2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
3010: Anaud-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				other trees		1
Cagas-----	F028AY076NV	FAVORABLE	500	bluebunch wheatgrass	25	
		NORMAL	350	muttongrass	10	
		UNFAVORABLE	200	other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	25	
				Utah serviceberry	10	
				curlleaf mountainmahogany	5	
				other shrubs	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Starflyer-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				muttongrass		5
				other shrubs		5
				other trees		2
Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Wrango-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
3036: Kyler-----	SHALLOW CALCAREOUS SLOPE 8-10 P.Z. (R028AY004NV)	FAVORABLE	500	Indian ricegrass		25
		NORMAL	325	Sandberg bluegrass		5
		UNFAVORABLE	150	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				shadscale		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Amtoft-----	SHALLOW CALCAREOUS HILL 8-10 P.Z. (R028AY027NV)	FAVORABLE	500	Indian ricegrass		20		
		NORMAL	325	galleta		5		
		UNFAVORABLE	150	other perennial grasses		5		
				other perennial forbs		5		
				black sagebrush		45		
				other shrubs		10		
				Utah juniper		5		
Rock outcrop----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10		
		NORMAL	700	galleta		5		
		UNFAVORABLE	500	other perennial grasses		5		
				other perennial forbs		5		
						littleleaf mountain mahogany		60
						black sagebrush		5
						other shrubs		5
						Stansbury cliffrose		2
				spiny greasebush		2		
Logring-----	F028AY074NV	FAVORABLE	500	bluegrass	15			
		NORMAL	300	Indian ricegrass	10			
		UNFAVORABLE	250	bluebunch wheatgrass	10			
				bottlebrush squirreltail	10			
						other perennial grasses	5	
						other perennial forbs	5	
						black sagebrush	10	
						other shrubs	10	
						Stansbury cliffrose	5	
						curlleaf mountainmahogany	5	
						wild crab apple	5	
						Utah juniper	5	
						singleleaf pinyon	5	
		Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
NORMAL	600			needleandthread		20		
UNFAVORABLE	400			galleta		5		
				other perennial grasses		5		
						Sandberg bluegrass		3
						bottlebrush squirreltail		2
						other perennial forbs		5
						Wyoming big sagebrush		20
				other shrubs		5		
				spiny hopsage		5		
				winterfat		5		
3170: Linoyer-----	SILTY 8-10 P.Z. (R028BY013NV)	FAVORABLE	700	Indian ricegrass		20		
		NORMAL	500	bottlebrush squirreltail		5		
		UNFAVORABLE	350	other perennial grasses		5		
				globemallow		5		
				other perennial forbs		5		
				winterfat		40		
				bud sagebrush		5		
				fourwing saltbush		5		
				other shrubs		5		
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40		
		NORMAL	600	galleta		5		
		UNFAVORABLE	400	bottlebrush squirreltail		3		
				other perennial grasses		3		
						other perennial forbs		2
						winterfat		25
						bud sagebrush		5
						other shrubs		5
				shadscale		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Zimbob-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028BY059NV)	FAVORABLE	400	Indian ricegrass		15
		NORMAL	250	Sandberg bluegrass		5
		UNFAVORABLE	125	Scribner needlegrass		5
				bluebunch wheatgrass		5
				bottlebrush squirreltail		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		10
				Utah juniper		10
Gremmers-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Tulase-----	LOAMY FAN 8-12 P.Z. (R028BY045NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	thickspike wheatgrass		10
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
				winterfat		10
				Douglas rabbitbrush		3
3190: Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
				other shrubs		5
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
		other perennial grasses		3		
Cirac-----	SODIC TERRACE 5-8 P.Z. (R028AY024NV)	FAVORABLE	700	alkali sacaton		40
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	inland saltgrass		5
				other perennial grasses		5
				other perennial forbs		5
				black greasewood		25
				other shrubs		5
		shadscale		5		
Easychair-----	OUTWASH PLAIN (R029XY048NV)	FAVORABLE	1000	basin wildrye		15
		NORMAL	800	other perennial grasses		5
		UNFAVORABLE	400	Indian ricegrass		2
				other perennial forbs		5
				fourwing saltbush		50
				bud sagebrush		5
				other shrubs		5
				winterfat		5
		greenmolly kochia		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10		
		NORMAL	700	Sandberg bluegrass		6		
		UNFAVORABLE	500	other perennial grasses		6		
				galleta		2		
				other perennial forbs		5		
				big sagebrush		30		
				desert peach		15		
				other shrubs		10		
				rubber rabbitbrush		10		
3192:								
Saltydog-----	SALINE TERRACE (R029XY120NV)	FAVORABLE	350	Indian ricegrass		20		
		NORMAL	250	galleta		5		
		UNFAVORABLE	100	other perennial grasses		5		
				other perennial forbs		4		
				greenmolly kochia		45		
				shadscale		10		
				bud sagebrush		5		
				other shrubs		5		
Ambush-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5		
		NORMAL	375	bottlebrush squirreltail		5		
		UNFAVORABLE	200	other perennial grasses		5		
				other perennial forbs		5		
				shadscale		70		
				other shrubs		5		
Panacker-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40		
		NORMAL	500	galleta		5		
		UNFAVORABLE	300	bottlebrush squirreltail		2		
				other perennial grasses		2		
						other perennial forbs		4
						globemallow		2
						fourwing saltbush		20
						winterfat		10
				other shrubs		5		
				bud sagebrush		2		
				spiny hopsage		2		
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40		
		NORMAL	500	galleta		5		
		UNFAVORABLE	300	bottlebrush squirreltail		2		
				other perennial grasses		2		
						other perennial forbs		4
						globemallow		2
						fourwing saltbush		20
						winterfat		10
				other shrubs		5		
				bud sagebrush		2		
				spiny hopsage		2		
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40		
		NORMAL	450	galleta		5		
		UNFAVORABLE	300	bottlebrush squirreltail		3		
				other perennial forbs		2		
						winterfat		25
						bud sagebrush		5
						fourwing saltbush		5
						other shrubs		5
				other perennial grasses		3		
Playas-----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Patter-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
					other perennial grasses	
				western wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
					other perennial forbs	
				winterfat		70
				bud sagebrush		5
				other shrubs		5
3193: Ewelac-----	SODIC FLAT (R029XY076NV)	FAVORABLE	450	alkali sacaton		5
		NORMAL	250	inland saltgrass		5
		UNFAVORABLE	100	other perennial grasses		5
					other perennial forbs	
				black greasewood		55
				other shrubs		5
				saltbush		5
				seepweed		5
				shadscale		5
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Panacker-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
					other perennial grasses	
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
				spiny hopsage		2
Ambush-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
					other perennial forbs	
				shadscale		70
				other shrubs		5
Saltydog-----	DEEP SILTY 5-8 P.Z. (R029XY159NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	300	bottlebrush squirreltail		5
		UNFAVORABLE	150	other perennial grasses		5
					other perennial forbs	
				Bonneville saltbush		25
				shadscale		20
				greenmolly kochia		10
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
3194: Ambush-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE NORMAL UNFAVORABLE	500 375 200	Indian ricegrass bottlebrush squirreltail other perennial grasses other perennial forbs shadscale other shrubs		5 5 5 5 70 5
Panacker-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	Indian ricegrass galleta bottlebrush squirreltail other perennial grasses other perennial forbs globemallow fourwing saltbush winterfat other shrubs bud sagebrush spiny hopsage		40 5 2 2 4 2 20 10 5 2 2
Playas-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Koyen-----	SODIC TERRACE 5-8 P.Z. (R029XY024NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 150	Indian ricegrass bottlebrush squirreltail other perennial grasses other perennial forbs shadscale black greasewood bud sagebrush fourwing saltbush other shrubs		10 5 5 5 35 20 5 5 5
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 200	Indian ricegrass other perennial grasses bottlebrush squirreltail other perennial forbs winterfat bud sagebrush other shrubs		5 5 2 2 70 5 5
Slaw-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE NORMAL UNFAVORABLE	500 375 200	Indian ricegrass bottlebrush squirreltail other perennial grasses other perennial forbs shadscale other shrubs		5 5 5 5 70 5
3196: Saltydog-----	SALINE TERRACE (R029XY120NV)	FAVORABLE NORMAL UNFAVORABLE	350 250 100	Indian ricegrass galleta other perennial grasses other perennial forbs greenmolly kochia shadscale bud sagebrush other shrubs		20 5 5 4 45 10 5 5
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE NORMAL UNFAVORABLE	700 450 300	Indian ricegrass galleta bottlebrush squirreltail other perennial forbs winterfat bud sagebrush fourwing saltbush other shrubs other perennial grasses		40 5 3 2 25 5 5 5 3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ambush-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
		shadscale		70		
				other shrubs		5
Panacker-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
bud sagebrush				2		
spiny hopsage		2				
Patter-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
western wheatgrass				5		
		other perennial forbs		5		
		Wyoming big sagebrush		20		
		other shrubs		5		
3198: Ambush-----	SHALLOW SILTY 5-8 P.Z. (R029XY059NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	375	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		70
				other shrubs		5
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
		bud sagebrush		5		
		other shrubs		5		
Panacker-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
bud sagebrush				2		
spiny hopsage		2				
Patter-----	LOAMY FAN 8-10 P.Z. (R029XY114NV)	FAVORABLE	1000	basin wildrye		30
		NORMAL	800	Indian ricegrass		20
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
		Wyoming big sagebrush		20		
		other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre			
Saltydog-----	DEEP SILTY 5-8 P.Z. (R029XY159NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	300	bottlebrush squirreltail		5
		UNFAVORABLE	150	other perennial grasses		5
				other perennial forbs		5
				Bonneville saltbush		25
				shadscale		20
				greenmolly kochia		10
	other shrubs		5			
3221: Rouette-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
	Wyoming big sagebrush			20		
	other shrubs		5			
	spiny hopsage		5			
	winterfat		5			
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
	fourwing saltbush			5		
	other shrubs		5			
	winterfat		5			
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40
		NORMAL	600	galleta		5
		UNFAVORABLE	400	bottlebrush squirreltail		3
				other perennial grasses		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
	other shrubs		5			
	shadscale		5			
Armespan-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
	fourwing saltbush			5		
	other shrubs		5			
	winterfat		5			
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
	other shrubs		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Medburn-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
		winterfat		5		
3290: Kunzler-----	SODIC TERRACE 8-10 P.Z. (R028BY028NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				other shrubs		5
				rubber rabbitbrush		5
Sycomat-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		40
				black greasewood		25
				bud sagebrush		5
				other shrubs		5
Pyrat-----	LOAMY 8-10 P.Z. (R028BY010NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		15
		UNFAVORABLE	400	bottlebrush squirreltail		5
				other perennial grasses		5
				Sandberg bluegrass		3
				other perennial forbs		5
				globemallow		2
				Wyoming big sagebrush		30
				other shrubs		5
				rabbitbrush		3
Hessing-----	LOAMY 5-8 P.Z. (R028BY017NV)	FAVORABLE	400	Indian ricegrass		15
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		5
				other perennial forbs		5
				shadscale		45
				bud sagebrush		15
				other shrubs		5
Benin-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				shadscale		40
				black greasewood		25
				bud sagebrush		5
				other shrubs		5
Benin-----	SODIC FLAT 8-10 P.Z. (R028BY069NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	inland saltgrass		5
		UNFAVORABLE	400	other perennial grasses		4
				bottlebrush squirreltail		2
				other perennial forbs		3
				Thelypodium		1
				black greasewood		60
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Duffer-----	SALINE MEADOW (R028BY002NV)	FAVORABLE	1500	alkali sacaton		40
		NORMAL	1000	alkali cordgrass		10
		UNFAVORABLE	700	Baltic rush		5
				alkaligrass		5
				bluegrass		5
				inland saltgrass		5
				other perennial grasses		5
				sedge		5
				other perennial forbs		10
other shrubs		5				
Kolda-----	WET MEADOW 10-14 P.Z. (R028BY001NV)	FAVORABLE	4000	sedge		25
		NORMAL	2000	alkali bluegrass		20
		UNFAVORABLE	1200	Nevada bluegrass		15
				basin wildrye		5
				mat muhly		5
				other perennial grasses		5
				rush		5
				other perennial forbs		5
				groundsel		3
				cinquefoil		2
				other shrubs		5
Calcic Petrocalcids---	BARREN FAN 8-10 P.Z. (R029XY092NV)	FAVORABLE	250	Indian ricegrass		5
		NORMAL	175	galleta		5
		UNFAVORABLE	100	needleandthread		5
				other perennial grasses		5
				Sandberg bluegrass		3
				other perennial forbs		5
				pigmy sagebrush		60
				other shrubs		5
other trees		1				
3409: Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
winterfat		5				
Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
Utah juniper		1				
Lojet-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
Utah juniper		1				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Gardenvalley----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Littleaillie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
3411: Watoopah-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
NORMAL		800	desert needlegrass		5	
UNFAVORABLE		500	galleta		5	
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Cath-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
spiny hopsage		2				
3412: Watoopah-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Littleailie-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				
Watoopah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Stewval-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
winterfat		2				
3416: Watoopah-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
other shrubs		5				
winterfat		5				
Littleailie-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
other shrubs		15				
Nevada ephedra		4				
3434: Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
wild crab apple	5					
Utah juniper	5					
singleleaf pinyon	5					

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Amtoft-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028AY034NV)	FAVORABLE	600	bluebunch wheatgrass		30
		NORMAL	400	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				needleandthread		3
				Sandberg bluegrass		2
				blue grama		2
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				singleleaf pinyon		3
Utah juniper		2				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Badhap-----	LOAMY SLOPE 16+ P.Z. (R028AY068NV)	FAVORABLE	1700	bluebunch wheatgrass		25
		NORMAL	1200	slender wheatgrass		15
		UNFAVORABLE	900	Letterman needlegrass		5
				mountain brome		5
				nodding brome		5
				other perennial grasses		5
				Nevada bluegrass		3
				other perennial forbs		5
				mountain big sagebrush		10
				Utah serviceberry		5
				other shrubs		5
				snowberry		5
				muttongrass		2
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
spiny greasebush		2				
Haunchee-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20
		NORMAL	1800	muttongrass		5
		UNFAVORABLE	1200	other perennial grasses		5
				Columbia needlegrass		2
				Letterman needlegrass		2
				other perennial forbs		5
				curl-leaf mountain mahogany		40
				mountain big sagebrush		10
other shrubs		5				
other trees		5				
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				Utah serviceberry		10
				antelope bitterbrush		10
				curl-leaf mountain mahogany		10
				snowberry		10
other shrubs		5				
singleleaf pinyon		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
3462: Littleaillie-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Devildog-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Littleaillie-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4
Devildog-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
3466: Littleaillie-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Littleaillie----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4
Littleaillie----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
				winterfat		2
Qwynn-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Devildog-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
		rubber rabbitbrush		10		
3580: Kylar-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
NORMAL		200	needleandthread		10	
UNFAVORABLE		75	galleta		5	
			other perennial grasses		5	
			other perennial forbs		5	
			black sagebrush		40	
			other shrubs		15	
				Nevada ephedra		4
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				Indian ricegrass		3
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				ephedra		2
				spiny greasebush		2
				other trees		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition				
		Kind of year	Dry weight		Forest	Range			
			Lb/acre		Pct	Pct			
Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20				
		NORMAL	300	Sandberg bluegrass	5				
		UNFAVORABLE	150	other perennial grasses	5				
				other perennial forbs	5				
				black sagebrush	35				
				antelope bitterbrush	5				
				buckwheat	5				
				other shrubs	5				
				singleleaf pinyon	7				
				Utah juniper	5				
3610: Threedogs-----	SALINE FLOODPLAIN (R028AY107NV)	FAVORABLE	1700	basin wildrye		50			
		NORMAL	1200	alkali sacaton		10			
		UNFAVORABLE	900	other perennial grasses		5			
				other perennial forbs		5			
				fourwing saltbush		20			
				black greasewood		5			
				other shrubs		5			
			Slaw-----	SALINE FLOODPLAIN (R028AY107NV)	FAVORABLE	1700	basin wildrye		50
					NORMAL	1200	alkali sacaton		10
					UNFAVORABLE	900	other perennial grasses		5
	other perennial forbs					5			
	fourwing saltbush					20			
	black greasewood					5			
	other shrubs					5			
Katelana-----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE				600	Indian ricegrass		5
		NORMAL				400	bottlebrush squirreltail		5
		UNFAVORABLE				200	other perennial grasses		5
				other perennial forbs		5			
				shadscale		40			
				black greasewood		25			
				bud sagebrush		5			
				other shrubs		5			
			Kunzler-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
					NORMAL	600	Indian ricegrass		5
UNFAVORABLE	400	other perennial grasses				5			
		other perennial forbs				5			
		black greasewood				35			
		big sagebrush				20			
		greenmolly kochia				5			
		other shrubs				5			
	Bigspring-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)			FAVORABLE	800	basin wildrye		15
					NORMAL	600	Indian ricegrass		5
UNFAVORABLE			400	other perennial grasses		5			
				other perennial forbs		5			
				black greasewood		35			
				big sagebrush		20			
				greenmolly kochia		5			
				other shrubs		5			
			3612: Littlespring----	SODIC TERRACE 5-8 P.Z. (R028BY074NV)	FAVORABLE	600	Indian ricegrass		5
					NORMAL	400	bottlebrush squirreltail		5
UNFAVORABLE	200	other perennial grasses				5			
		other perennial forbs				5			
		shadscale				40			
		black greasewood				25			
		bud sagebrush				5			
		other shrubs				5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Bigspring-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
Greatday-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	other perennial grasses		5
				galleta		3
				sand dropseed		2
				globemallow		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Biji-----	SALINE BOTTOM (R028AY106NV)	FAVORABLE	2200	basin wildrye		40
		NORMAL	1500	alkali sacaton		30
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				black greasewood		5
				other shrubs		5
Duffer-----	SALINE MEADOW (R028AY105NV)	FAVORABLE	1500	alkali sacaton		45
		NORMAL	1000	alkali cordgrass		10
		UNFAVORABLE	700	Baltic rush		5
				alkali bluegrass		5
				alkaligrass		5
				inland saltgrass		5
				other perennial grasses		5
				sedge		5
				King's ivesia		5
				other perennial forbs		5
				other shrubs		5
Kunzler-----	SODIC TERRACE 8-10 P. Z. (R028AY008NV)	FAVORABLE	800	basin wildrye		15
		NORMAL	600	Indian ricegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				black greasewood		35
				big sagebrush		20
				greenmolly kochia		5
				other shrubs		5
3670: Logring-----	F029XY069NV	FAVORABLE	400	muttongrass	20	
		NORMAL	300	Sandberg bluegrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	35	
				antelope bitterbrush	5	
				buckwheat	5	
				other shrubs	5	
				singleleaf pinyon	7	
				Utah juniper	5	
Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		40
				other shrubs		15
				Nevada ephedra		4

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
			Indian ricegrass		3	
			other perennial forbs		5	
			littleleaf mountain mahogany		60	
			black sagebrush		5	
			other shrubs		5	
			ephedra		2	
			spiny greasebush		2	
other trees		2				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Wrango-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
			galleta		2	
			other perennial forbs		5	
			big sagebrush		30	
			desert peach		15	
			other shrubs		10	
			rubber rabbitbrush		10	
3673: Kyler-----	LIMESTONE SLOPE (R029XY160NV)	FAVORABLE	500	needleandthread		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		4
			Stansbury cliffrose		55	
			black sagebrush		10	
			other shrubs		8	
Nevada ephedra		5				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Kyler-----	SHALLOW CALCAREOUS SLOPE 8-12 P.Z. (R029XY014NV)	FAVORABLE	350	Indian ricegrass		15
		NORMAL	200	needleandthread		10
		UNFAVORABLE	75	galleta		5
			other perennial grasses		5	
			other perennial forbs		5	
			black sagebrush		40	
other shrubs		15				
Nevada ephedra		4				
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
			galleta		2	
			other perennial forbs		5	
			big sagebrush		30	
			desert peach		15	
			other shrubs		10	
rubber rabbitbrush		10				
Eaglepass-----	LIMESTONE HILL (R029XY040NV)	FAVORABLE	600	needleandthread		5
		NORMAL	450	needlegrass		5
		UNFAVORABLE	300	other perennial grasses		5
			Indian ricegrass		3	
			other perennial forbs		5	
			littleleaf mountain mahogany		60	
			black sagebrush		5	
			other shrubs		5	
			ephedra		2	
spiny greasebush		2				
other trees		2				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ursine-----	SHALLOW CALCAREOUS LOAM 8-12 P.Z. (R029XY008NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	500	needleandthread		10
		UNFAVORABLE	250	other perennial grasses		5
				Sandberg bluegrass		3
				galleta		2
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				fourwing saltbush		3
				Nevada ephedra		2
	winterfat		2			
3675: Radol-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		10
				Utah juniper		5
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass		15
		NORMAL	300	Indian ricegrass		10
		UNFAVORABLE	250	bluebunch wheatgrass		10
				bottlebrush squirreltail		10
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		10
				other shrubs		10
				Stansbury cliffrose		5
				curlleaf mountainmahogany		5
	wild crab apple		5			
	Utah juniper		5			
	singleleaf pinyon		5			
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass		10
		NORMAL	350	basin wildrye		5
		UNFAVORABLE	250	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				Utah serviceberry		10
				antelope bitterbrush		10
				curl-leaf mountain mahogany		10
				snowberry		10
	other shrubs		5			
	singleleaf pinyon		5			
Highup-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20
		NORMAL	1800	muttongrass		5
		UNFAVORABLE	1200	other perennial grasses		5
				Columbia needlegrass		2
				Letterman needlegrass		2
				other perennial forbs		5
				curl-leaf mountain mahogany		40
	mountain big sagebrush		10			
	other shrubs		5			
	other trees		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
	spiny greasbrush		2			
Buzztail-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				muttongrass		5
				other shrubs		5
	other trees		2			
Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Stansbury cliffrose		5
				other shrubs		5
				singleleaf pinyon		10
	Utah juniper		5			
3700: Leo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
NORMAL		700	desert needlegrass		15	
UNFAVORABLE		450	bush muhly		5	
			galleta		5	
			other perennial grasses		5	
			other perennial forbs		5	
			other shrubs		5	
			spiny hopsage		20	
			Nevada ephedra		5	
			fourwing saltbush		5	
			winterfat		5	
			bud sagebrush		2	
Delamar-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
	spiny hopsage		20			
	Nevada ephedra		5			
	fourwing saltbush		5			
	winterfat		5			
	bud sagebrush		2			
Veet-----	SANDY LOAM 8-12 P.Z. (R029XY049NV)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	desert needlegrass		5
		UNFAVORABLE	500	galleta		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		3
				desert globemallow		2
				other annual forbs		2
				Wyoming big sagebrush		25
				fourwing saltbush		5
	other shrubs		5			
	winterfat		5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Annabella-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		6
		UNFAVORABLE	500	other perennial grasses		6
				galleta		2
				other perennial forbs		5
				big sagebrush		30
				desert peach		15
				other shrubs		10
				rubber rabbitbrush		10
Unsel-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5
Tybo-----	LOAMY UPLAND 5-8 P.Z. (R029XY016NV)	FAVORABLE	1000	Indian ricegrass		35
		NORMAL	700	galleta		4
		UNFAVORABLE	500	other perennial forbs		4
				spiny hopsage		25
				fourwing saltbush		10
				Nevada ephedra		5
				Anderson's wolfberry		4
				bud sagebrush		4
				winterfat		4
Geer-----	COARSE SILTY 5-8 P.Z. (R029XY042NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	450	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		3
				other perennial forbs		2
				winterfat		25
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5
				other perennial grasses		3
Handpah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
Penoyer-----	SILTY 5-8 P.Z. (R029XY020NV)	FAVORABLE	500	Indian ricegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	bottlebrush squirreltail		2
				other perennial forbs		2
				winterfat		70
				bud sagebrush		5
				other shrubs		5
3701: Leo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
				winterfat		5
				bud sagebrush		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Tybo-----	DROUGHTY LOAM 5-8 P.Z. (R029XY079NV)	FAVORABLE	900	Indian ricegrass		20
		NORMAL	700	desert needlegrass		15
		UNFAVORABLE	450	bush muhly		5
				galleta		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				spiny hopsage		20
				Nevada ephedra		5
				fourwing saltbush		5
		winterfat		5		
		bud sagebrush		2		
Koyen-----	SANDY LOAM 5-8 P.Z. (R029XY046NV)	FAVORABLE	700	Indian ricegrass		40
		NORMAL	500	galleta		5
		UNFAVORABLE	300	bottlebrush squirreltail		2
				other perennial grasses		2
				other perennial forbs		4
				globemallow		2
				fourwing saltbush		20
				winterfat		10
				other shrubs		5
				bud sagebrush		2
		spiny hopsage		2		
Candelaria-----	LOAMY 5-8 P.Z. (R029XY017NV)	FAVORABLE	700	Indian ricegrass		30
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				shadscale		30
				bud sagebrush		10
				winterfat		8
				other shrubs		5
Handpah-----	LOAMY 8-10 P.Z. (R029XY006NV)	FAVORABLE	800	Indian ricegrass		30
		NORMAL	600	needleandthread		10
		UNFAVORABLE	300	other perennial grasses		6
				desert needlegrass		5
				other perennial forbs		2
				Wyoming big sagebrush		30
				fourwing saltbush		4
				other shrubs		4
				Utah juniper		1
3860: Hyzen-----	F028BY060NV	FAVORABLE	500	bluebunch wheatgrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluegrass	10	
				bottlebrush squirreltail	10	
				Thurber's needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	15	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
		other shrubs	5			
		singleleaf pinyon	5			
		Utah juniper	2			
Eganroc-----	F028BY049NV	FAVORABLE	400	muttongrass	15	
		NORMAL	300	bluebunch wheatgrass	10	
		UNFAVORABLE	200	other perennial grasses	5	
				goldenweed	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Oregongrape	5	
				other shrubs	5	
				Great Basin bristlecone pine	10	
				limber pine	10	
		white fir	5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haunchee-----	CALCAREOUS MAHOGANY SAVANNA (R028BY043NV)	FAVORABLE	4800	bluebunch wheatgrass		20
		NORMAL	3500	Columbia needlegrass		5
		UNFAVORABLE	2500	muttongrass		5
				other perennial grasses		5
				western needlegrass		5
				other perennial forbs		5
				curlleaf mountainmahogany		25
				mountain big sagebrush		20
				other shrubs		5
				snowberry		3
Hyzen-----	LIMESTONE HILL (R028BY066NV)	FAVORABLE	1300	Indian ricegrass		5
		NORMAL	1000	Scribner needlegrass		5
		UNFAVORABLE	800	other perennial grasses		5
				other perennial forbs		5
				goldenweed		3
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				snowberry		3
				other trees		2
McIvey-----	LOAMY SLOPE 12-16 P.Z. (R028BY015NV)	FAVORABLE	1500	bluebunch wheatgrass		30
		NORMAL	1100	Thurber's needlegrass		5
		UNFAVORABLE	700	basin wildrye		5
				other perennial grasses		5
				western needlegrass		5
				muttongrass		2
				other perennial forbs		5
				arrowleaf balsamroot		3
				longleaf hawksbeard		2
				mountain big sagebrush		10
				Utah serviceberry		5
				antelope bitterbrush		5
				snowberry		5
				other shrubs		3
				other trees		2
Wiffo-----	SHALLOW LOAM 8-10 P.Z. (R028BY080NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	needleandthread		10
		UNFAVORABLE	200	Sandberg bluegrass		5
				bottlebrush squirreltail		5
				other perennial grasses		5
				other perennial forbs		10
				Wyoming big sagebrush		30
				other shrubs		5
				other trees		2
3870: Newvil-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				other trees		1

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Chuckmill-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
		other shrubs		5		
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
		other shrubs		10		
Nevu-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		10
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		15
				Stansbury cliffrose		5
				other shrubs		5
				wild crab apple		5
		other trees		1		
3871: Newvil-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				other trees		1
		Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye
NORMAL	1000			thickspike wheatgrass		15
UNFAVORABLE	700			needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
		other shrubs		10		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Badena-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		10
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		15
				Stansbury cliffrose		5
				other shrubs		5
wild crab apple		5				
other trees		1				
Sevenmile-----	LOAMY BOTTOM 10-14 P.Z. (R028AY090NV)	FAVORABLE	6000	basin wildrye		70
		NORMAL	4000	Nevada bluegrass		5
		UNFAVORABLE	2500	other perennial grasses		5
				western wheatgrass		5
				other perennial forbs		5
				basin big sagebrush		5
other shrubs		2				
Nevu-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		10
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		15
				Stansbury cliffrose		5
				other shrubs		5
squaw apple		5				
other trees		1				
3880: Nevu-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
NORMAL		700	Thurber's needlegrass		10	
UNFAVORABLE		400	Indian ricegrass		5	
			muttongrass		5	
			needleandthread		5	
			other perennial grasses		5	
			other perennial forbs		5	
			big sagebrush		15	
			Stansbury cliffrose		5	
			other shrubs		5	
wild crab apple		5				
other trees		1				
Okayview-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
muttongrass		5				
other shrubs		5				
other trees		2				
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
basin big sagebrush		20				
other shrubs		10				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
			Lb/acre		Pct	Pct	
Newvil-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028AY035NV)	FAVORABLE	450	Indian ricegrass		25	
		NORMAL	300	Thurber's needlegrass		20	
		UNFAVORABLE	150	needleandthread		5	
				other perennial grasses		5	
				other perennial forbs		5	
				black sagebrush		25	
				other shrubs		10	
				Utah juniper		2	
Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15		
		NORMAL	300	Indian ricegrass	10		
		UNFAVORABLE	250	bluebunch wheatgrass	10		
				bottlebrush squirreltail	10		
				other perennial grasses	5		
				other perennial forbs	5		
				black sagebrush	10		
				other shrubs	10		
				Stansbury cliffrose	5		
				curlleaf mountainmahogany	5		
				wild crab apple	5		
				Utah juniper	5		
				singleleaf pinyon	5		
Rock outcrop----	---			FAVORABLE	---		
		NORMAL	---				
		UNFAVORABLE	---				
3890: Anaud-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25	
		NORMAL	600	Thurber's needlegrass		15	
		UNFAVORABLE	400	Indian ricegrass		5	
				muttongrass		5	
				other perennial grasses		5	
				other perennial forbs		5	
				black sagebrush		30	
				other shrubs		5	
				other trees		1	
				Nuhelen-----	F028AY074NV	FAVORABLE	500
				NORMAL	300	Indian ricegrass	10
		UNFAVORABLE	250	bluebunch wheatgrass	10		
				bottlebrush squirreltail	10		
				other perennial grasses	5		
				other perennial forbs	5		
				black sagebrush	10		
				other shrubs	10		
				Stansbury cliffrose	5		
				curlleaf mountainmahogany	5		
				wild crab apple	5		
				Utah juniper	5		
				singleleaf pinyon	5		
Rock outcrop----	---			FAVORABLE	---		
		NORMAL	---				
		UNFAVORABLE	---				
Cagas-----	F028AY076NV	FAVORABLE	500	bluebunch wheatgrass	25		
		NORMAL	350	muttongrass	10		
		UNFAVORABLE	200	other perennial grasses	5		
				other perennial forbs	5		
				mountain big sagebrush	25		
				Utah serviceberry	10		
				curlleaf mountainmahogany	5		
				other shrubs	5		
				singleleaf pinyon	5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10
3892: Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5
Hamtah-----	GRAVELLY LOAM 12-14 P.Z. (R028AY066NV)	FAVORABLE	1200	bluebunch wheatgrass		20
		NORMAL	900	Thurber's needlegrass		10
		UNFAVORABLE	700	bluegrass		5
				other perennial grasses		5
				other perennial forbs		5
				antelope bitterbrush		30
				mountain big sagebrush		10
				other shrubs		5
				other trees		3
Schoolmarm-----	CLAYPAN 12-14 P.Z. (R028AY094NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				other perennial forbs		10
				low sagebrush		25
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Anaud-----	SHALLOW CLAY LOAM 12-14 P.Z. (R028AY036NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				other shrubs		5
				other trees		1
Newvil-----	SHALLOW CLAY LOAM 10-12 P.Z. (R028AY035NV)	FAVORABLE	450	Indian ricegrass		25
		NORMAL	300	Thurber's needlegrass		20
		UNFAVORABLE	150	needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				other shrubs		10
				Utah juniper		2
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
3894: Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	bluegrass		5
				other perennial grasses		5
				other perennial forbs		15
				low sagebrush		30
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Nuhelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
4001: Modem-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5
Newwil-----	SHALLOW CALCAREOUS LOAM 10-14 P.Z. (R028AY043NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				other shrubs		5
				other trees		2
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nevu-----	GRAVELLY CLAY 10-12 P.Z. (R028AY050NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		10
		UNFAVORABLE	400	Indian ricegrass		5
				muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				big sagebrush		15
				Stansbury cliffrose		5
				other shrubs		5
	wild crab apple		5			
	other trees		1			
Yotes-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
	winterfat		5			
Badena-----	LOAMY 10-12 P.Z. (R028AY095NV)	FAVORABLE	1000	needleandthread		25
		NORMAL	800	bluebunch wheatgrass		15
		UNFAVORABLE	600	Indian ricegrass		10
				other perennial grasses		5
				Thurber's needlegrass		2
				other perennial forbs		5
				Wyoming big sagebrush		25
				other shrubs		5
				other trees		2
4002: Jarab-----	SHALLOW CALCAREOUS LOAM 10-14 P.Z. (R028AY043NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				other shrubs		5
				other trees		2
Ravendog-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
	other shrubs		10			
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Zafod-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
4011: Radol-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028AY034NV)	FAVORABLE	600	bluebunch wheatgrass		30
		NORMAL	400	Indian ricegrass		15
		UNFAVORABLE	200	other perennial grasses		5
				needleandthread		3
				Sandberg bluegrass		2
				blue grama		2
				other perennial forbs		5
				black sagebrush		25
				Stansbury cliffrose		5
				singleleaf pinyon		3
				Utah juniper		2
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Buzztail-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				muttongrass		5
				other shrubs		5
				other trees		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasebush		2
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Utah serviceberry	10	
				antelope bitterbrush	10	
				curl-leaf mountain mahogany	10	
				snowberry	10	
				other shrubs	5	
				singleleaf pinyon	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
4013: Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasebush		2
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass	5	
				other perennial grasses	5	
				other perennial forbs	5	
				mountain big sagebrush	20	
				Utah serviceberry	10	
				antelope bitterbrush	10	
				curl-leaf mountain mahogany	10	
				snowberry	10	
				other shrubs	5	
				singleleaf pinyon	5	
Eganroc-----	F028AY098NV	FAVORABLE	200	bluebunch wheatgrass	10	
		NORMAL	100	muttongrass	10	
		UNFAVORABLE	50	other perennial grasses	5	
				goldenweed	10	
				other perennial forbs	5	
				mountain big sagebrush	25	
				Oregongrape	5	
				other shrubs	5	
				snowberry	5	
				limber pine	5	
				other trees	5	
				white fir	5	
4014: Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Eaglepass-----	LIMESTONE HILL (R028AY029NV)	FAVORABLE	900	Scribner needlegrass		10
		NORMAL	700	galleta		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				littleleaf mountain mahogany		60
				black sagebrush		5
				other shrubs		5
				Stansbury cliffrose		2
				spiny greasebush		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Eganroc-----	F028AY098NV	FAVORABLE	200	bluebunch wheatgrass	10	
		NORMAL	100	muttongrass	10	
		UNFAVORABLE	50	other perennial grasses		5
				goldenweed		10
				other perennial forbs		5
				mountain big sagebrush		25
				Oregongrape		5
				other shrubs		5
				snowberry		5
				limber pine		5
				other trees		5
white fir		5				
Haunchee-----	STONY MAHOGANY SAVANNA (R028AY058NV)	FAVORABLE	1300	bluebunch wheatgrass		20
		NORMAL	900	Letterman needlegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				muttongrass		3
				other perennial forbs		5
				curl-leaf mountain mahogany		40
mountain big sagebrush		10				
other shrubs		5				
other trees		5				
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				Utah serviceberry		10
				antelope bitterbrush		10
				curl-leaf mountain mahogany		10
				snowberry		10
				other shrubs		5
singleleaf pinyon		5				
Buzztail-----	SHALLOW LOAM 14+ P.Z. (R028AY065NV)	FAVORABLE	800	bluebunch wheatgrass		60
		NORMAL	600	muttongrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		10
				other shrubs		5
snowberry		5				
other trees		3				
4015: Buzztail-----	SHALLOW LOAM 14+ P.Z. (R028AY065NV)	FAVORABLE	800	bluebunch wheatgrass		60
NORMAL	600	muttongrass		5		
UNFAVORABLE	400	other perennial grasses		5		
		other perennial forbs		5		
		mountain big sagebrush		10		
		other shrubs		5		
snowberry		5				
other trees		3				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
			bottlebrush squirreltail	10		
			other perennial grasses	5		
			other perennial forbs	5		
			black sagebrush	10		
			other shrubs	10		
			Stansbury cliffrose	5		
			curlleaf mountainmahogany	5		
			wild crab apple	5		
Utah juniper	5					
singleleaf pinyon	5					
Buzztail-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
			other perennial forbs		5	
			mountain big sagebrush		20	
			muttongrass		5	
other shrubs		5				
other trees		2				
Haunchee-----	STONY MAHOGANY SAVANNA (R028AY058NV)	FAVORABLE	1300	bluebunch wheatgrass		20
		NORMAL	900	Letterman needlegrass		5
		UNFAVORABLE	600	other perennial grasses		5
			muttongrass		3	
			other perennial forbs		5	
			curl-leaf mountain mahogany		40	
			mountain big sagebrush		10	
other shrubs		5				
other trees		5				
Monarch-----	F028AY077NV	FAVORABLE	500	bluebunch wheatgrass	10	
		NORMAL	350	basin wildrye	5	
		UNFAVORABLE	250	muttongrass	5	
			other perennial grasses	5		
			other perennial forbs	5		
			mountain big sagebrush	20		
			Utah serviceberry	10		
			antelope bitterbrush	10		
			curl-leaf mountain mahogany	10		
			snowberry	10		
			other shrubs	5		
singleleaf pinyon	5					
Jarab-----	SHALLOW CALCAREOUS LOAM 10-14 P.Z. (R028AY043NV)	FAVORABLE	800	bluebunch wheatgrass		30
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	muttongrass		5
			needleandthread		5	
			other perennial grasses		5	
			other perennial forbs		5	
			black sagebrush		25	
			Stansbury cliffrose		5	
			other shrubs		5	
			other trees		2	
4017: Amtoft-----	SHALLOW CALCAREOUS HILL 10-14 P.Z. (R028AY102NV)	FAVORABLE	400	Indian ricegrass		20
		NORMAL	250	bluebunch wheatgrass		10
		UNFAVORABLE	125	other perennial grasses		5
			other perennial forbs		5	
			black sagebrush		30	
			Stansbury cliffrose		5	
other shrubs		5				
singleleaf pinyon		10				
Utah juniper		5				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Radol-----	SHALLOW CALCAREOUS SLOPE 10-14 P.Z. (R028AY034NV)	FAVORABLE NORMAL UNFAVORABLE	600 400 200	bluebunch wheatgrass Indian ricegrass other perennial grasses needleandthread Sandberg bluegrass blue grama other perennial forbs black sagebrush Stansbury cliffrose singleleaf pinyon Utah juniper		30 15 5 3 2 2 5 25 5 3 2
Buzztail-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE NORMAL UNFAVORABLE	800 500 300	bluebunch wheatgrass Indian ricegrass other perennial grasses other perennial forbs mountain big sagebrush muttongrass other shrubs other trees		35 20 5 5 20 5 5 2
4018: Eoj-----	CLAYPAN 12-14 P.Z. (R028AY094NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 400	bluebunch wheatgrass Thurber's needlegrass muttongrass other perennial grasses other perennial forbs low sagebrush antelope bitterbrush other shrubs other trees		25 15 5 5 10 25 5 5 2
Schoolmarm-----	CLAYPAN 12-14 P.Z. (R028AY094NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 400	bluebunch wheatgrass Thurber's needlegrass muttongrass other perennial grasses other perennial forbs low sagebrush antelope bitterbrush other shrubs other trees		25 15 5 5 10 25 5 5 2
McIvey-----	LOAMY 12-14 P.Z. (R028AY092NV)	FAVORABLE NORMAL UNFAVORABLE	1400 1000 800	bluebunch wheatgrass Thurber's needlegrass basin wildrye muttongrass other perennial grasses other perennial forbs mountain big sagebrush antelope bitterbrush other shrubs		35 15 5 5 5 5 15 5 5
Starflyer-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE NORMAL UNFAVORABLE	800 500 300	bluebunch wheatgrass Indian ricegrass other perennial grasses other perennial forbs mountain big sagebrush muttongrass other shrubs other trees		35 20 5 5 20 5 5 2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Bellehelen-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
	wild crab apple	5				
	Utah juniper	5				
	singleleaf pinyon	5				
4020: Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
NORMAL		350	Thurber's needlegrass		10	
UNFAVORABLE		200	bluegrass		5	
			other perennial grasses		5	
			other perennial forbs		15	
			low sagebrush		30	
			antelope bitterbrush		5	
			other shrubs		5	
			other trees		2	
Farepeak-----	F028AY099NV	FAVORABLE	700	bluebunch wheatgrass	10	
NORMAL		500	muttongrass	10		
UNFAVORABLE		300	other perennial grasses	10		
			other perennial forbs	10		
			mountain big sagebrush	25		
			other shrubs	10		
			antelope bitterbrush	5		
			curlleaf mountainmahogany	5		
			Utah juniper	5		
			singleleaf pinyon	5		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5
Schoolmarm-----	MOUNTAIN RIDGE (R028AY062NV)	FAVORABLE	350	bluebunch wheatgrass		30
NORMAL		250	muttongrass		10	
UNFAVORABLE		100	other perennial grasses		5	
			needlegrass		2	
			other perennial forbs		5	
			low sagebrush		35	
			other shrubs		5	
			Douglas rabbitbrush		2	
			fringed sagewort		2	
Nuhelen-----	F028AY075NV	FAVORABLE	500	other shrubs	5	
NORMAL		300	bluebunch wheatgrass	10		
UNFAVORABLE		150	muttongrass	10		
			bottlebrush squirreltail	5		
			other perennial forbs	5		
			low sagebrush	25		
			Utah serviceberry	10		
			curl-leaf mountain mahogany	10		
			singleleaf pinyon	10		
			other trees	5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
4022: Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	bluegrass		5
				other perennial grasses		5
				other perennial forbs		15
				low sagebrush		30
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5
Schoolmarm-----	CLAYPAN 12-14 P.Z. (R028AY094NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				other perennial forbs		10
				low sagebrush		25
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10
Tractuff-----	F028AY099NV	FAVORABLE	700	bluebunch wheatgrass	10	
		NORMAL	500	muttongrass	10	
		UNFAVORABLE	300	other perennial grasses	10	
				other perennial forbs	10	
				mountain big sagebrush	25	
				other shrubs	10	
				antelope bitterbrush	5	
				curlleaf mountainmahogany	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
4024: Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30
		NORMAL	700	Thurber's needlegrass		5
		UNFAVORABLE	450	muttongrass		5
				needleandthread		5
				other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				antelope bitterbrush		10
				other shrubs		5
				other trees		5
Schoolmarm-----	MOUNTAIN RIDGE (R028AY062NV)	FAVORABLE	350	bluebunch wheatgrass		30
		NORMAL	250	muttongrass		10
		UNFAVORABLE	100	other perennial grasses		5
				needlegrass		2
				other perennial forbs		5
				low sagebrush		35
				other shrubs		5
				Douglas rabbitbrush		2
				fringed sagewort		2
Schoolmarm-----	CLAYPAN 12-14 P.Z. (R028AY094NV)	FAVORABLE	800	bluebunch wheatgrass		25
		NORMAL	600	Thurber's needlegrass		15
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				other perennial forbs		10
				low sagebrush		25
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	bluegrass		5
				other perennial grasses		5
				other perennial forbs		15
				low sagebrush		30
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Sevenmile-----	LOAMY FAN 10-14 P.Z. (R028AY091NV)	FAVORABLE	1300	basin wildrye		30
		NORMAL	1000	thickspike wheatgrass		15
		UNFAVORABLE	700	needleandthread		10
				other perennial grasses		5
				other perennial forbs		5
				basin big sagebrush		20
				other shrubs		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
4030: Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Starflyer-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35
		NORMAL	500	Indian ricegrass		20
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		20
				muttongrass		5
				other shrubs		5
				other trees		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ponyspring-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	bluegrass		5
				other perennial grasses		5
				other perennial forbs		15
				low sagebrush		30
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20
		NORMAL	350	Thurber's needlegrass		10
		UNFAVORABLE	200	bluegrass		5
				other perennial grasses		5
				other perennial forbs		15
				low sagebrush		30
				antelope bitterbrush		5
				other shrubs		5
				other trees		2
4032: Zafod-----	SHALLOW LOAM 8-10 P.Z. (R028AY017NV)	FAVORABLE	600	Indian ricegrass		25
		NORMAL	400	other perennial grasses		10
		UNFAVORABLE	200	galleta		5
				needleandthread		5
				other perennial forbs		5
				Wyoming big sagebrush		35
				other shrubs		10
Sevenmile-----	LOAMY FAN 8-10 P.Z. (R028AY031NV)	FAVORABLE	1000	basin wildrye		20
		NORMAL	800	Indian ricegrass		10
		UNFAVORABLE	600	needleandthread		5
				other perennial grasses		5
				thickspike wheatgrass		5
				other perennial forbs		5
				Wyoming big sagebrush		30
				winterfat		10
				other shrubs		5
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Heist-----	LOAMY 8-10 P.Z. (R028AY015NV)	FAVORABLE	800	Indian ricegrass		20
		NORMAL	600	needleandthread		20
		UNFAVORABLE	400	galleta		5
				other perennial grasses		5
				Sandberg bluegrass		3
				bottlebrush squirreltail		2
				other perennial forbs		5
				Wyoming big sagebrush		20
				other shrubs		5
				spiny hopsage		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
4035: Highup-----	MAHOGANY SAVANNA (R028AY059NV)	FAVORABLE	2500	bluebunch wheatgrass		20
		NORMAL	1800	muttongrass		5
		UNFAVORABLE	1200	other perennial grasses		5
				Columbia needlegrass		2
				Letterman needlegrass		2
				other perennial forbs		5
				curl-leaf mountain mahogany		40
				mountain big sagebrush		10
				other shrubs		5
				other trees		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Eganroc-----	F028AY098NV	FAVORABLE	200	bluebunch wheatgrass	10	
		NORMAL	100	muttongrass	10	
		UNFAVORABLE	50	other perennial grasses	5	
				goldenweed	10	
				other perennial forbs	5	
				mountain big sagebrush	25	
				Oregongrape	5	
				other shrubs	5	
				snowberry	5	
				limber pine	5	
				other trees	5	
				white fir	5	
Radol-----	CALCAREOUS MOUNTAIN RIDGE (R028AY096NV)	FAVORABLE	350	bluebunch wheatgrass		35
		NORMAL	200	muttongrass		10
		UNFAVORABLE	100	other perennial grasses		5
				pine needlegrass		5
				other perennial forbs		10
				black sagebrush		25
				other shrubs		5
Lodar-----	F028AY074NV	FAVORABLE	500	bluegrass	15	
		NORMAL	300	Indian ricegrass	10	
		UNFAVORABLE	250	bluebunch wheatgrass	10	
				bottlebrush squirreltail	10	
				other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	10	
				other shrubs	10	
				Stansbury cliffrose	5	
				curlleaf mountainmahogany	5	
				wild crab apple	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Buzztail-----	SHALLOW LOAM 14+ P.Z. (R028AY065NV)	FAVORABLE	800	bluebunch wheatgrass		60
		NORMAL	600	muttongrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		10
				other shrubs		5
				snowberry		5
				other trees		3
4040: Farepeak-----	F028AY099NV	FAVORABLE	700	bluebunch wheatgrass	10	
		NORMAL	500	muttongrass	10	
		UNFAVORABLE	300	other perennial grasses	10	
				other perennial forbs	10	
				mountain big sagebrush	25	
				other shrubs	10	
				antelope bitterbrush	5	
				curlleaf mountainmahogany	5	
				Utah juniper	5	
				singleleaf pinyon	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Hamtah-----	GRAVELLY LOAM 12-14 P.Z. (R028AY066NV)	FAVORABLE	1200	bluebunch wheatgrass		20		
		NORMAL	900	Thurber's needlegrass		10		
		UNFAVORABLE	700	bluegrass		5		
				other perennial grasses		5		
				other perennial forbs		5		
				antelope bitterbrush		30		
				mountain big sagebrush		10		
				other shrubs		5		
				other trees		3		
Starflyer-----	SHALLOW LOAM 10-14 P.Z. (R028AY064NV)	FAVORABLE	800	bluebunch wheatgrass		35		
		NORMAL	500	Indian ricegrass		20		
		UNFAVORABLE	300	other perennial grasses		5		
				other perennial forbs		5		
						mountain big sagebrush		20
						muttongrass		5
						other shrubs		5
				other trees		2		
Schoolmarm-----	COBBLY CLAYPAN (R028AY126NV)	FAVORABLE	500	bluebunch wheatgrass		20		
		NORMAL	350	Thurber's needlegrass		10		
		UNFAVORABLE	200	bluegrass		5		
				other perennial grasses		5		
						other perennial forbs		15
						low sagebrush		30
						antelope bitterbrush		5
						other shrubs		5
				other trees		2		
Slockey-----	GRAVELLY CLAY 12-14 P.Z. (R028AY088NV)	FAVORABLE	900	bluebunch wheatgrass		30		
		NORMAL	700	Thurber's needlegrass		5		
		UNFAVORABLE	450	muttongrass		5		
				needleandthread		5		
						other perennial grasses		5
						other perennial forbs		5
						mountain big sagebrush		20
						antelope bitterbrush		10
						other shrubs		5
						other trees		5
Rock outcrop----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
Rubble land-----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
5021:								
Atlanta-----	DEEP LOAMY 8-10 P.Z. (R028AY121NV)	FAVORABLE	2200	basin wildrye		75		
		NORMAL	1500	other perennial grasses		5		
		UNFAVORABLE	900	other perennial forbs		5		
				basin big sagebrush		10		
				other shrubs		3		
Escalante-----	COARSE SILTY 5-8 P.Z. (R028AY002NV)	FAVORABLE	800	Indian ricegrass		40		
		NORMAL	600	galleta		5		
		UNFAVORABLE	400	bottlebrush squirreltail		3		
				other perennial grasses		3		
						other perennial forbs		2
						winterfat		25
						bud sagebrush		5
						other shrubs		5
						shadscale		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Ursine-----	SHALLOW CALCAREOUS LOAM 8-10 P.Z. (R028AY013NV)	FAVORABLE	700	Indian ricegrass		20
		NORMAL	500	needleandthread		15
		UNFAVORABLE	300	galleta		5
				other perennial grasses		5
				sand dropseed		5
				other perennial forbs		5
				black sagebrush		25
				fourwing saltbush		5
				other shrubs		5
				winterfat		5
Linoyer-----	SILTY 8-10 P.Z. (R028AY030NV)	FAVORABLE	700	Indian ricegrass		10
		NORMAL	500	bottlebrush squirreltail		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				winterfat		55
				bud sagebrush		5
				fourwing saltbush		5
				other shrubs		5

TABLE 6.--FORESTLAND PRODUCTIVITY

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
1088: Monarch-----	singleleaf pinyon---	75	9	---
1093: Logring-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
1096: Lodar-----	singleleaf pinyon---	45	4	---
1110: Nuhelen-----	singleleaf pinyon---	45	4	---
1111: Nuhelen-----	singleleaf pinyon---	30	2	---
	Utah juniper-----	30	1	
Farepeak-----	singleleaf pinyon---	45	4	---
1113: Farepeak-----	singleleaf pinyon---	45	4	---
1115: Nuhelen-----	singleleaf pinyon---	45	4	---
1171: Hardzem-----	white fir-----	43	70	---
1172: Hardzem-----	white fir-----	43	70	---
1190: Pookaloo-----	singleleaf pinyon---	40	4	---
Cavehill-----	singleleaf pinyon---	50	4	---
1211: Urmafot-----	singleleaf pinyon---	35	2	---
	Utah juniper-----	35	2	
1215: Jarab-----	singleleaf pinyon---	65	14	---
	Utah juniper-----	65	14	
1291: Pookaloo-----	singleleaf pinyon---	35	2	---
	Utah juniper-----	35	2	
Cavehill-----	singleleaf pinyon---	50	4	---
1300: Pioche-----	singleleaf pinyon---	50	4	---
Cropper-----	singleleaf pinyon---	70	9	---
1380: Cavehill-----	singleleaf pinyon---	70	9	---
Cavehill-----	singleleaf pinyon---	20	2	---
1384: Cavehill-----	singleleaf pinyon---	70	9	---
Cavehill-----	singleleaf pinyon---	20	2	---
1430: Hardzem-----	white fir-----	43	70	---
Hackwood-----	quaking aspen-----	37	14	---

TABLE 6.--FORESTLAND PRODUCTIVITY

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Guiser-----	quaking aspen-----	44	18	---
	white fir-----	45	70	
1485: Monarch-----	singleleaf pinyon---	75	9	---
Eganroc-----	white fir-----	35	57	---
1501: Monarch-----	singleleaf pinyon---	75	9	---
1502: Lodar-----	singleleaf pinyon---	45	4	---
Logring-----	singleleaf pinyon---	45	4	---
1510: Jarab-----	singleleaf pinyon---	65	14	---
	Utah juniper-----	65	14	
1910: Lodar-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
1920: Eganroc-----	singleleaf pinyon---	50	4	---
	white fir-----	25	51	
1922: Lodar-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
1930: Nuhelen-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
1948: Farepeak-----	singleleaf pinyon---	50	4	---
2280: Granquin-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
2287: Granquin-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
2288: Granquin-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
2302: Nuhelen-----	singleleaf pinyon---	45	4	---
3010: Cagas-----	singleleaf pinyon---	20	2	---
3434: Lodar-----	singleleaf pinyon---	45	4	---
3670: Logring-----	singleleaf pinyon---	45	4	---
	Utah juniper-----	45	4	
3675: Lodar-----	singleleaf pinyon---	45	4	---
3860: Hyzen-----	singleleaf pinyon---	20	0	---
	Utah juniper-----	20	0	

TABLE 6.--FORESTLAND PRODUCTIVITY

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Eganroc-----	white fir-----	35	60	---
4002: Jarab-----	singleleaf pinyon---	65	14	---
	Utah juniper-----	65	14	---
4011: Lodar-----	singleleaf pinyon---	45	4	---
4013: Lodar-----	singleleaf pinyon---	45	4	---
4014: Lodar-----	singleleaf pinyon---	45	4	---
4015: Lodar-----	singleleaf pinyon---	45	4	---
4020: Farepeak-----	singleleaf pinyon---	45	4	---
4035: Eganroc-----	white fir-----	20	40	---
4040: Farepeak-----	singleleaf pinyon---	45	4	---

TABLE 7.--Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1001: Eastmore-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.01 0.01
Armespan-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.07
Ursine-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1003: Eastmore-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.01 0.01
Eastmore-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.01 0.01
Escalante-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
1010: Armespan-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.07
Escalante-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
1011: Armespan-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.07
1020: Geer-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Slaw-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1021: Geer-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Penoyer-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1022: Cliffdown-----	60	Fair Bottom layer Thickest layer	 0.00 0.19	Fair Bottom layer Thickest layer	 0.00 0.04
Geer-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1029: Blackcan-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Veet-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.07
Armespan-----	15	Fair Thickest layer Bottom layer	 0.00 0.12	Fair Thickest layer Bottom layer	 0.00 0.10
1030: Ursine-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Escalante-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03
1031: Ursine-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Geer-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ursine-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1032: Ursine-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Mezzer-----	20	Fair Bottom layer Thickest layer	 0.07 0.38	Fair Thickest layer Bottom layer	 0.04 0.12
Armespan-----	15	Fair Thickest layer Bottom layer	 0.00 0.12	Fair Thickest layer Bottom layer	 0.00 0.10
1033: Ursine-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Cliffdown-----	15	Fair Bottom layer Thickest layer	 0.00 0.19	Fair Bottom layer Thickest layer	 0.00 0.04

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1034: Ursine-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ursine-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1035: Ursine-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ursine-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1036: Ursine-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ursine-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Mezzer-----	15	Fair Bottom layer Thickest layer	0.07 0.38	Fair Thickest layer Bottom layer	0.02 0.12
1040: Chuckmill-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Qwynn-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.06
1042: Chuckridge-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Cath-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
Sevenmile-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1043: Chuckridge-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Handpah-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1050: Ursine-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Escalante-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Lien-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
1053: Ursine-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Mezzer-----	25	Fair		Fair	
		Bottom layer	0.07	Thickest layer	0.02
		Thickest layer	0.38	Bottom layer	0.12
Ursine-----	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
1060: Gravier-----	55	Fair		Fair	
		Thickest layer	0.19	Thickest layer	0.03
		Bottom layer	0.25	Bottom layer	0.31
Geer-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
1071: Koyen-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.07
1073: Koyen-----	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Colval-----	40	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
1074: Koyen-----	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Slaw-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Penoyer-----	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
1075: Koyen-----	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Penoyer-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1076: Koyen-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03
Geer-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.03
1080: Slaw-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1081: Slaw-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Sycomat-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.86
1084: Slaw-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Penoyer-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1085: Colval-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Slaw-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Colval-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1086: Slaw-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Slaw-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Colval-----	15	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1087: Glotrain-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.05 0.22
Koyen-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1088: Radol-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Eaglepass-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Monarch-----	20	Fair Thickest layer Bottom layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
1090: Kyler-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Eaglepass-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
1091: Kyler-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Eaglepass-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
1093: Kyler-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Logring-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
1095: Kyler-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
Amtoft-----	15	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1096: Kyler-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Lodar-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1100: Linoyer-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Heist-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.01 0.02
1103: Patter-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sevenmile-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1104: Colval-----	60	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Penoyer-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1106: Patter-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Linco-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.02
1110: Nuhelen-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chubard-----	35	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
1111: Nuhelen-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Farepeak-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1113: Farepeak-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Slockey-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Schoolmarm-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1114: Slockey-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Schoolmarm-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
1115: Nuhelen-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
Newvil-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.69
1120: Watoopah-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.10
Chuckmill-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1130: Handpah-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chuckridge-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sevenmile-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1131: Handpah-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Watoopah-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.10
Littleallie-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
1132: Handpah-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Veet-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.07

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1133: Lojet-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
Qwynn-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.06
Littleallie-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
1134: Lojet-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
Chuckmill-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sevenmile-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1138: Littleallie-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
Lien-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sevenmile-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1140: Cowgil-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Yody-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fax-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1150: Zoda-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Cath-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
1151: Watoopah-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.10
Zoda-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Sevenmile-----	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
1154: Qwynn-----	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.06
Ragnel-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.00	Bottom layer	0.89
1160: Silent-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Koyen-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.07
1170: Haunchee-----	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
Hardol-----	20	Fair		Poor	
		Thickest layer	0.20	Bottom layer	0.00
		Bottom layer	0.20	Thickest layer	0.00
Xine-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
1171: Haunchee-----	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
Hardzem-----	30	Fair		Poor	
		Thickest layer	0.29	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
1172: Haunchee-----	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
Wardbay-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hardzem-----	20	Fair		Poor	
		Thickest layer	0.29	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
1180: Eoj-----	40	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Eoj-----	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
McIvey-----	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
1190: Pookaloo-----	40	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Cavehill-----	30	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
1200: Urmafot-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.29	Bottom layer	0.06
Bobs-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Palinor-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.14
1210: Palinor-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.14
1211: Palinor-----	45	Fair		Fair	
		Thickest layer	0.04	Thickest layer	0.01
		Bottom layer	0.25	Bottom layer	0.14
Urmafot-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.29	Bottom layer	0.06
Urmafot-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.29	Bottom layer	0.06
1212: Palinor-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.14
Yody-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Broland-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.51
1215: Ursine-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Jarab-----	40	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1220: Lien-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Devildog-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.06
1230: Yotes-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.04 0.04
Sevenmile-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1231: Newwil-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.69
Nevu-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Ponyspring-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01
1232: Nevu-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Ponyspring-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01
Okayview-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1240: Sycomat-----	65	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.86
Escalante-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03
Gravier-----	15	Fair Thickest layer Bottom layer	 0.19 0.25	Fair Thickest layer Bottom layer	 0.03 0.31
1270: Heusser-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Wambolt-----	30	Fair Thickest layer Bottom layer	 0.43 0.43	Fair Thickest layer Bottom layer	 0.00 0.03

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1280: Badena-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1291: Zimbob-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Pookaloo-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Cavehill-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1300: Pioche-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Birchcreek-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Cropper-----	15	Fair Thickest layer Bottom layer	 0.00 0.38	Poor Bottom layer Thickest layer	 0.00 0.00
1307: Kyler-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Amtoft-----	20	Fair Thickest layer Bottom layer	 0.00 0.25	Poor Thickest layer Bottom layer	 0.00 0.00
Eaglepass-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1310: Duffer-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Duffer-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Kolda-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
1320: Broland-----	45	Fair Thickest layer Bottom layer	 0.00 0.50	Fair Thickest layer Bottom layer	 0.00 0.51
Yody-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1330: Amelar-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Eoj-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hardol-----	20	Fair Thickest layer Bottom layer	 0.20 0.20	Poor Bottom layer Thickest layer	 0.00 0.00
1340: Heist-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.01 0.02
Heist-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.01 0.01
1350: Heist-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.01 0.02
Chuffa-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1359: Devildog-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.06
Gardenvalley-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.01 0.08
Qwynn-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.06
1360: Veet-----	70	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.07
Armespan-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.07
1362: Kyler-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Amtoft-----	30	Fair Thickest layer Bottom layer	 0.00 0.25	Poor Thickest layer Bottom layer	 0.00 0.00
Amtoft-----	20	Fair Thickest layer Bottom layer	 0.00 0.25	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1370: Amtoft-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Kyler-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1380: Cavehill-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Cavehill-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rock outcrop-----	10	Not rated		Not rated	
1381: Ursine-----	50	Fair Bottom layer Thickest layer	 0.00 0.04	Fair Bottom layer Thickest layer	 0.00 0.03
Armespan-----	35	Fair Thickest layer Bottom layer	 0.00 0.12	Fair Thickest layer Bottom layer	 0.03 0.10
1382: Ursine-----	75	Fair Bottom layer Thickest layer	 0.00 0.04	Fair Bottom layer Thickest layer	 0.00 0.03
Medburn-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1384: Cavehill-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Haunchee-----	30	Fair Thickest layer Bottom layer	 0.00 0.06	Poor Bottom layer Thickest layer	 0.00 0.00
Cavehill-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1386: Ursine-----	35	Fair Bottom layer Thickest layer	 0.00 0.04	Fair Bottom layer Thickest layer	 0.00 0.03
Ursine-----	30	Fair Bottom layer Thickest layer	 0.00 0.04	Fair Bottom layer Thickest layer	 0.00 0.03
Eastmore-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.01 0.01
1388: Eastmore-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.01 0.01

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Summermute-----	35	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.12	Thickest layer	0.03
Ursine-----	15	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.04	Thickest layer	0.03
1400: Suak-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Segura-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McIvey-----	15	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
1430: Hardzem-----	35	Fair		Poor	
		Thickest layer	0.29	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Hackwood-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Guiser-----	20	Fair		Fair	
		Thickest layer	0.06	Thickest layer	0.00
		Bottom layer	0.57	Bottom layer	0.06
1435: Haunchee-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	30	Not rated		Not rated	
1470: Tybo-----	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Koyen-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.07
1473: Tybo-----	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
Leo-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.08
1475: Treadwell-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.51
Treadwell-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.51

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Veet-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.07
1485: Monarch-----	35	Fair Thickest layer Bottom layer	0.00 0.12	Poor Bottom layer Thickest layer	0.00 0.00
Highup-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Eganroc-----	20	Fair Thickest layer Bottom layer	0.38 0.38	Poor Bottom layer Thickest layer	0.00 0.00
1501: Radol-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Monarch-----	30	Fair Thickest layer Bottom layer	0.00 0.12	Poor Bottom layer Thickest layer	0.00 0.00
Highup-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1502: Lodar-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Logring-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
1510: Ursine-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Jarab-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Pamsdel-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
1525: Ubehebe-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Penelas-----	25	Fair Thickest layer Bottom layer	0.00 0.69	Poor Bottom layer Thickest layer	0.00 0.00
Kyler-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1700: Garfan-----	45	Fair Thickest layer Bottom layer	 0.38 0.44	Poor Bottom layer Thickest layer	 0.00 0.00
Garfan-----	25	Fair Thickest layer Bottom layer	 0.38 0.44	Poor Bottom layer Thickest layer	 0.00 0.00
McIvey-----	15	Fair Thickest layer Bottom layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
1701: Suak-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Chen-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
1730: Qwynn-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.06
Devildog-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.06
1731: Cath-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Chuckridge-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1732: Cath-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Watoopah-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.08 0.10
Escalante-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03
1733: Cath-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Watoopah-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.08 0.10
Escalante-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1810: Boxspring-----	65	Fair Thickest layer Bottom layer	 0.04 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
1880: Richinde-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Pintwater-----	20	Fair Thickest layer Bottom layer	 0.06 0.06	Fair Bottom layer Thickest layer	 0.01 0.01
Rock outcrop-----	15	Not rated		Not rated	
1881: Richinde-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Richinde-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
1882: Richinde-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Richinde-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1885: Richinde-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Chubard-----	25	Fair Thickest layer Bottom layer	 0.00 0.40	Poor Bottom layer Thickest layer	 0.00 0.00
Richinde-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1900: Eaglepass-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Rock outcrop-----	30	Not rated		Not rated	
Amtoft-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
1910: Radol-----	65	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Lodar-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1920: Eganroc-----	35	Fair Thickest layer Bottom layer	0.38 0.38	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	30	Not rated		Not rated	
Radol-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1922: Lodar-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Eaglepass-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Radol-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1930: Nuhelen-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Chubard-----	30	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
1940: Chubard-----	45	Fair Thickest layer Bottom layer	0.00 0.50	Poor Bottom layer Thickest layer	0.00 0.00
Chubard-----	25	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
1942: Richinde-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chubard-----	30	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Chubard-----	20	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1945:					
Chubard-----	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Richinde-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
1946:					
Chubard-----	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Chubard-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
1948:					
Farepeak-----	40	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Schoolmarm-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
1949:					
Richinde-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chubard-----	20	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.40	Bottom layer	0.00
Chubard-----	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
1955:					
Treadwell-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.51
Chuckridge-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Handpah-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
1957:					
Malmesa-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nevooyer-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Treadwell-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.51
1958: Nevoyer-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Lomoin-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.02
Rock outcrop-----	15	Not rated		Not rated	
1959: Rock outcrop-----	35	Not rated		Not rated	
Rubble land-----	30	Not rated		Not rated	
Chubard-----	20	Fair Thickest layer Bottom layer	0.00 0.50	Poor Bottom layer Thickest layer	0.00 0.00
1960: Devildog-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
Devildog-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
1989: Gabbvally-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
1990: Richinde-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
2000: Playas-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2010: Chuffa-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chuffa-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2020: Yobe-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Yobe-----	15	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
2030: Teebone-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Yobe-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2041: Kolda-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Duffer-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
2050: Ragnel-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.89
2060: Crestline-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.07
Crestline-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.07
Veet-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.07
2061: Crestline-----	70	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.07
Linoyer-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2071: Chuffa-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Linoyer-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Playas-----	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
2100: Glotrain-----	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.05
		Bottom layer	0.00	Bottom layer	0.22

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Devildog-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
2120: Sevenmile-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Devildog-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
2122: Lojet-----	75	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
Littleaillie-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
2123: Littleaillie-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
Lojet-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
2280: Granquin-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Schoolmarm-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Starflyer-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2283: Rock outcrop-----	50	Not rated		Not rated	
Chubard-----	25	Fair Thickest layer Bottom layer	0.00 0.40	Poor Thickest layer Bottom layer	0.00 0.00
Richinde-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2284: Starflyer-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Starflyer-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2285: Schoolmarm-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Starflyer-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Schoolmarm-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2286: Schoolmarm-----	60	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
2287: Granquin-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
Schoolmarm-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
2288: Schoolmarm-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Granquin-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
2290: Richinde-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chubard-----	30	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
2292: Chubard-----	50	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Richinde-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2296: Chubard-----	40	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00
Chubard-----	25	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Chubard-----	20	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.40	Bottom layer	0.00
2297: Chubard-----	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Richinde-----	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
2298: Chubard-----	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Richinde-----	25	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Chubard-----	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
2299: Chubard-----	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Rock outcrop-----	25	Not rated		Not rated	
2301: Stewval-----	55	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.31	Thickest layer	0.00
Gabbvally-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2302: Chubard-----	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Nuhelen-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	10	Not rated		Not rated	
2304: Chubard-----	70	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
2305: Chubard-----	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Littleallie-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
Devildog-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
2311: Cliffdown-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.04
2312: Fang-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.01 0.01
Nyala-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.07
2320: Blackcan-----	70	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Blackcan-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
3010: Anaud-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Cagas-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
3036: Kyler-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Amtoft-----	25	Fair Thickest layer Bottom layer	0.00 0.25	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
3170: Linoyer-----	60	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Escalante-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
3190: Penoyer-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Geer-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3192: Saltydog-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
Ambush-----	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Panacker-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
3193: Ewelac-----	50	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Playas-----	40	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
3194: Ambush-----	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Panacker-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Playas-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3196: Saltydog-----	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.86
Geer-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3198: Ambush-----	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03
Penoyer-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3221: Rouette-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.82
Ursine-----	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.04	Thickest layer	0.03

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Escalante-----	25	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.02
		Bottom layer	0.00	Thickest layer	0.03
3290: Kunzler-----	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Sycomat-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.19	Bottom layer	0.07
3409: Devildog-----	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.06
Qwynn-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.06
Lojet-----	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
3411: Watoopah-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.54
Cath-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.04
3412: Watoopah-----	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.10
Devildog-----	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.06
Littleailie-----	15	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.08
3416: Watoopah-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.10
3434: Lodar-----	50	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.49	Bottom layer	0.00
Amtoft-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
3462: Littleailie-----	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Devildog-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
3466: Littleailie-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
Littleailie-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
3580: Kyler-----	75	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
3610: Threedogs-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Slaw-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3612: Littlespring-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.12
Bigspring-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Greatday-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3670: Logring-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Kyler-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Eaglepass-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
3673: Kyler-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
Kyler-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
3675: Radol-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
Lodar-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3700: Leo-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.08
Delamar-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.03
3701: Leo-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.08
Tybo-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3860: Hyzen-----	35	Fair Thickest layer Bottom layer	0.00 0.06	Poor Thickest layer Bottom layer	0.00 0.00
Eganroc-----	30	Fair Thickest layer Bottom layer	0.38 0.38	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
3870: Newvil-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.69
Chuckmill-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sevenmile-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
3871: Newvil-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.69
Sevenmile-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
3880: Nevu-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Okayview-----	35	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Sevenmile-----	15	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
3890: Anaud-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3892: Slockey-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Hamtah-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Schoolmarm-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3894: Schoolmarm-----	70	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Sevenmile-----	15	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
4001: Modem-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Newvil-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.69
Sevenmile-----	15	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
4002: Jarab-----	70	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ravendog-----	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
4011: Radol-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lodar-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
4013: Lodar-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	40	Not rated		Not rated	
4014: Lodar-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Eaglepass-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
Rock outcrop-----	15	Not rated		Not rated	
4015: Buzztail-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Lodar-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Buzztail-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
4017: Amtoft-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
4018: Eoj-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Schoolmarm-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
McIvey-----	20	Fair Thickest layer Bottom layer	0.00 0.12	Poor Bottom layer Thickest layer	0.00 0.00
4020: Schoolmarm-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Farepeak-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
4022: Schoolmarm-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 7.--Source of Gravel and Sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Slockey-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Schoolmarm-----	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
4024: Slockey-----	35	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Schoolmarm-----	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Schoolmarm-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4030: Rock outcrop-----	50	Not rated		Not rated	
Starflyer-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4032: Zafod-----	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Sevenmile-----	20	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
4035: Highup-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	30	Not rated		Not rated	
Eganroc-----	15	Fair		Poor	
		Thickest layer	0.38	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
4040: Farepeak-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hamtah-----	25	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Starflyer-----	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
5021: Atlanta-----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Escalante-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.02
		Thickest layer	0.00	Thickest layer	0.03

TABLE 8.--ENGINEERING PROPERTIES
(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1001: Eastmore-----	0-3	Gravelly loam	SM	A-1, A-2	0	0-5	65-80	60-75	40-60	20-40	20-25	NP-5
	3-17	Very gravelly fine sandy loam, gravelly fine sandy loam, extremely gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2	0	0-10	40-60	35-50	20-40	10-30	20-35	NP-15
	17-49	Cemented material			---	---	---	---	---	---	---	---
	49-65	Very gravelly loamy sand, very gravelly loamy coarse sand, gravelly fine sandy loam, very gravelly fine sandy loam	GC-GM, GM	A-4, A-2	0-5	0-25	50-70	45-60	35-55	30-50	20-30	NP-10
Armespan-----	0-3	Very gravelly sandy loam	SC-SM, GC-GM	A-4, A-2	0	0	42-92	27-76	21-68	8-48	20-30	5-10
	3-11	Gravelly sandy loam, gravelly loam	SC-SM	A-1, A-2	0	0	73-92	52-76	41-68	18-49	20-30	5-10
	11-22	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM	A-2	0	0	62-79	31-51	21-44	10-26	20-30	5-10
	22-60	Very gravelly loamy sand, very gravelly loamy coarse sand	SM	A-1	0	0-6	60-73	32-51	25-44	7-17	15-20	NP-5
Ursine-----	0-2	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-90	65-75	60-70	40-55	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	16-60	Cemented material			---	---	---	---	---	---	---	---
1003: Eastmore-----	0-3	Gravelly sandy loam	SM, GM	A-1, A-2	0	0-5	55-75	45-70	30-50	15-30	20-25	NP-5
	3-17	Very gravelly fine sandy loam, gravelly fine sandy loam, extremely gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2	0	0-10	40-60	35-50	20-40	10-30	20-35	NP-15
	17-49	Cemented material			---	---	---	---	---	---	---	---
	49-65	Very gravelly loamy sand, very gravelly loamy coarse sand, gravelly fine sandy loam, very gravelly fine sandy loam	GC-GM, GM	A-4, A-2	0-5	0-25	50-70	45-60	35-55	30-50	20-30	NP-10

TABLE 8.--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	
Eastmore-----	0-3	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-5	55-75	45-70	30-50	15-30	20-25	NP-5
	3-17	Very gravelly fine sandy loam, gravelly fine sandy loam, extremely gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2	0	0-10	40-60	35-50	20-40	10-30	20-35	NP-15
	17-49	Cemented material			---	---	---	---	---	---	---	---
	49-65	Very gravelly loamy sand, very gravelly loamy coarse sand, gravelly fine sandy loam, very gravelly fine sandy loam	GC-GM, GM	A-4, A-2	0-5	0-25	50-70	45-60	35-55	30-50	20-30	NP-10
Escalante-----	0-3	Very gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5
1010: Armespan-----	0-3	Gravelly sandy loam	GC-GM, SC-SM	A-4	0	0	42-92	27-76	21-68	8-48	20-30	5-10
	3-11	Gravelly sandy loam, gravelly loam	SC-SM	A-1, A-2	0	0	73-92	52-76	41-68	18-49	20-30	5-10
	11-22	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM	A-2	0	0	62-79	31-51	21-44	10-26	20-30	5-10
	22-60	Very gravelly loamy sand, very gravelly loamy coarse sand	SM	A-1	0	0-6	60-73	32-51	25-44	7-17	15-20	NP-5
Escalante-----	0-3	Very gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5
1011: Armespan-----	0-3	Gravelly sandy loam	SC-SM, GC-GM	A-4	0	0	42-92	27-76	21-68	8-48	20-30	5-10
	3-11	Gravelly sandy loam, gravelly loam	SC-SM	A-1, A-2	0	0	73-92	52-76	41-68	18-49	20-30	5-10
	11-22	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM	A-2	0	0	62-79	31-51	21-44	10-26	20-30	5-10
	22-60	Very gravelly loamy sand, very gravelly loamy coarse sand	SM	A-1	0	0-6	60-73	32-51	25-44	7-17	15-20	NP-5

TABLE 8.--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	
1020:												
Geer-----	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	80-100	75-95	40-65	15-25	NP-5
	12-65	Fine sandy loam	ML, SM	A-4	0	0	85-100	80-100	75-95	40-75	15-25	NP-5
Slaw-----	0-13	Silt loam	CL-ML, ML, CL	A-4	0	0	95-100	95-100	85-100	75-90	25-35	5-10
	13-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-45	10-20
1021:												
Geer-----	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	95-100	85-95	40-65	15-25	NP-5
	12-65	Stratified fine sandy loam to very fine sandy loam	ML, SM	A-4	0	0	85-100	85-100	80-95	40-75	15-25	NP-5
Penoyer-----	0-8	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	20-30	NP-5
	8-60	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	20-30	NP-5
1022:												
Cliffdown-----	0-4	Very gravelly sandy loam	GM	A-1, A-2	0	0-5	30-55	25-50	20-35	10-30	0-14	NP
	4-60	Stratified gravelly sandy loam to very gravelly fine sandy loam	GM	A-1, A-2	0	0-5	45-55	40-50	30-40	15-30	0-14	NP
Geer-----	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	80-100	75-95	40-65	15-25	NP-5
	12-65	Fine sandy loam	ML, SM	A-4	0	0	85-100	80-100	75-95	40-75	15-25	NP-5
1029:												
Blackcan-----	0-4	Very gravelly sandy loam	SC-SM, SC	A-1, A-2	0-1	0-15	59-92	38-76	32-76	15-45	21-30	4-11
	4-7	Very gravelly sandy loam, extremely gravelly sandy loam	SC-SM, SC	A-1-a, A-2	0	0-6	60-72	30-47	28-47	13-30	23-30	6-11
	7-14	Very gravelly sandy loam, very gravelly loamy coarse sand, extremely gravelly sandy loam	SC-SM	A-1-a, A-1	0	0	51-67	13-51	11-47	4-27	15-26	2-8
	14-60	Cemented material			---	---	---	---	---	---	---	---
Veet-----	0-4	Very gravelly sandy loam	SC-SM, SC	A-2, A-1	0-1	0-6	62-73	31-53	27-46	10-24	20-35	5-15
	4-16	Very gravelly sandy loam	GC-GM, GC	A-2, A-1	0	10-25	40-60	35-55	25-50	15-25	20-25	5-10
	16-60	Stratified very gravelly loamy coarse sand to extremely gravelly sandy loam	GM, GP-GM	A-1	0	10-25	45-55	30-50	15-30	5-15	---	NP

TABLE 8.--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	
Armespan-----	0-1	Very gravelly sandy loam	GM	A-1	0	0-10	45-60	30-50	20-40	10-25	20-25	NP-5
	1-7	Sandy loam, gravelly sandy loam, gravelly loam	SM	A-1, A-2	0	0-5	80-95	65-90	45-65	20-35	20-25	NP-5
	7-18	Gravelly sandy loam, gravelly loam	GM, SM	A-2, A-4	0	0-10	55-85	50-75	35-60	25-45	20-25	NP-5
	18-28	Very gravelly sandy loam, very gravelly coarse sandy loam	GM	A-1	0	0-10	40-60	35-50	20-40	10-25	20-25	NP-5
	28-60	Very gravelly loamy coarse sand, very gravelly loamy sand	GM, GW-GM, SM, SW-SM, GP-GM	A-1	0	0-10	30-60	25-50	10-35	5-15	---	NP
1030: Ursine-----	0-2	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-90	65-75	60-70	40-55	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	16-60	Cemented material			---	---	---	---	---	---	---	---
Escalante-----	0-3	Fine sandy loam	GM, SM	A-1, A-2, A-4	0	0	55-90	50-80	35-75	20-40	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5
1031: Ursine-----	0-2	Very gravelly loam	GC, GC-GM	A-2	0	0-5	40-60	30-50	25-45	20-35	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	16-60	Cemented material			---	---	---	---	---	---	---	---
Geer-----	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	95-100	85-95	40-65	15-25	NP-5
	12-65	Stratified fine sandy loam to very fine sandy loam	ML, SM	A-4	0	0	85-100	85-100	80-95	40-75	15-25	NP-5

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In				Pct	Pct					Pct	
Ursine-----	0-2	Very gravelly loam	GC, GC-GM	A-2	0	0-5	40-60	30-50	25-45	20-35	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	16-60	Cemented material			---	---	---	---	---	---	---	---
1032:												
Ursine-----	0-2	Very gravelly loam	GC, GC-GM	A-2	0	0-5	40-60	30-50	25-45	20-35	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC, GC-GM, SC-SM	A-2	0	0-5	30-60	25-50	15-45	10-35	20-30	5-10
	16-20	Cemented material			---	---	---	---	---	---	---	---
Mezzer-----	0-3	Very gravelly sandy loam	GM, SM	A-1	0	0-15	30-65	25-50	20-40	10-25	15-25	NP-5
	3-10	Gravelly fine sandy loam	GM, SM	A-4, A-1, A-2	0	0-10	55-85	50-75	35-65	20-45	15-25	NP-5
	10-46	Extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP, GM, GP-GM, GW-GM	A-1	0	0-15	20-50	10-30	5-30	0-15	15-25	NP-5
	46-60	Very gravelly loamy coarse sand, extremely gravelly sandy loam	GP-GM, GM, SP-SM, SM	A-1	0	0-5	30-65	20-50	10-35	5-20	15-20	NP-5
Armespan-----	0-1	Very gravelly sandy loam	GM	A-1	0	0-10	45-60	30-50	20-40	10-25	20-25	NP-5
	1-7	Sandy loam, gravelly sandy loam, gravelly loam	SM	A-1, A-2	0	0-5	80-95	65-90	45-65	20-35	20-25	NP-5
	7-18	Gravelly sandy loam, gravelly loam	GM, SM	A-2, A-4	0	0-10	55-85	50-75	35-60	25-45	20-25	NP-5
	18-28	Very gravelly sandy loam, very gravelly coarse sandy loam	GM	A-1	0	0-10	40-60	35-50	20-40	10-25	20-25	NP-5
	28-60	Very gravelly loamy coarse sand, very gravelly loamy sand	GM, GW-GM, SM, SW-SM, GP-GM	A-1	0	0-10	30-60	25-50	10-35	5-15	---	NP

TABLE 8.--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	
Mezzer-----	0-3	Very gravelly fine sandy loam	GM, SM	A-1	0	0-15	30-65	25-50	20-40	10-25	15-25	NP-5
	3-10	Gravelly fine sandy loam	GM, SM	A-4, A-1, A-2	0	0-10	55-85	50-75	35-65	20-45	15-25	NP-5
	10-46	Extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP, GM, GP-GM, GW-GM	A-1	0	0-15	20-50	10-30	5-30	0-15	15-25	NP-5
	46-60	Very gravelly loamy coarse sand, extremely gravelly sandy loam	GP-GM, GM, SP-SM, SM	A-1	0	0-5	30-65	20-50	10-35	5-20	15-20	NP-5
Ursine-----	0-2	Very gravelly loam	GC, GC-GM	A-2	0	0-5	40-60	30-50	25-45	20-35	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	16-60	Cemented material			---	---	---	---	---	---	---	---
1060: Gravier-----	0-4	Gravelly loam	GM, SM	A-4	0	0	65-80	55-75	45-65	35-50	15-25	NP-5
	4-41	Stratified extremely gravelly coarse sandy loam to very gravelly loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	41-65	Extremely gravelly coarse sand	GM, GP-GM	A-1	0	0-24	30-50	25-40	15-25	5-15	---	NP
Geer-----	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	80-100	75-95	40-65	15-25	NP-5
	12-65	Fine sandy loam	ML, SM	A-4	0	0	85-100	80-100	75-95	40-75	15-25	NP-5
1071: Koyen-----	0-3	Sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	75-100	40-60	5-15	---	NP
	3-17	Sandy loam	SM	A-4	0	0	90-95	85-95	50-75	35-50	15-25	NP-5
	17-44	Sandy loam	SM	A-2, A-4	0	0	80-90	75-85	50-60	25-40	15-25	NP-5
	44-60	Gravelly loamy sand, very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0	0	50-60	45-55	25-35	5-15	---	NP
1073: Koyen-----	0-4	Fine sandy loam	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	75-100	40-82	5-20	---	NP
	4-15	Sandy loam	SM	A-4, A-2	0	0	90-100	85-95	50-75	35-50	15-25	NP-5
	15-60	Fine sandy loam	SM	A-2, A-4	0	0	80-92	75-85	50-78	25-40	15-25	NP-5
Colval-----	0-5	Silt loam	CL	A-6	0	0	100	100	100	80-90	30-40	15-20
	5-11	Silty clay loam	CL	A-7	0	0	100	100	100	90-95	35-50	15-30
	11-23	Silty clay loam	CL	A-7	0	0	100	100	100	75-100	40-50	20-30
	23-60	Silt loam	CL	A-6	0	0	100	100	100	80-100	35-45	15-25

TABLE 8.--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		
1074:												
Koyen-----	0-4	Loamy fine sand	SM, SP-SM	A-1, A-2, A-3	0	0	90-100	75-100	40-82	5-20	---	NP
	4-15	Sandy loam	SM	A-4, A-2	0	0	90-100	85-95	50-75	35-50	15-25	NP-5
	15-60	Fine sandy loam	SM	A-2, A-4	0	0	80-92	75-85	50-78	25-40	15-25	NP-5
Slaw-----												
	0-13	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	75-90	25-35	5-10
	13-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-45	10-20
Penoyer-----												
	0-8	Very fine sandy loam	ML	A-4	0	0	100	100	90-100	50-95	20-30	NP-5
	8-60	Silt loam, very fine sandy loam, loam	ML	A-4	0	0	100	100	95-100	70-95	20-30	NP-5
1075:												
Koyen-----	0-4	Gravelly sandy loam	SM	A-2, A-4	0	0	65-90	50-75	40-65	25-40	15-25	NP-5
	4-15	Sandy loam	SM	A-4, A-2	0	0	90-100	85-95	50-75	35-50	15-25	NP-5
	15-60	Fine sandy loam	SM	A-2, A-4	0	0	80-92	75-85	50-78	25-40	15-25	NP-5
Penoyer-----												
	0-8	Silt loam	ML	A-4	0	0	100	100	90-100	50-95	20-30	NP-5
	8-60	Silt loam, very fine sandy loam, loam	ML	A-4	0	0	100	100	95-100	70-95	20-30	NP-5
1076:												
Koyen-----	0-4	Loamy sand	SM	A-2, A-4	0	0	65-90	50-85	40-70	25-40	15-25	NP-5
	4-15	Sandy loam	SM	A-4, A-2	0	0	90-100	85-95	50-75	35-50	15-25	NP-5
	15-60	Fine sandy loam	SM	A-2, A-4	0	0	80-92	75-85	50-78	25-40	15-25	NP-5
Geer-----												
	0-12	Sandy loam	ML, SM	A-4	0	0	100	80-100	75-95	40-65	15-25	NP-5
	12-65	Fine sandy loam	ML, SM	A-4	0	0	85-100	80-100	75-95	40-75	15-25	NP-5
1080:												
Slaw-----	0-13	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	75-90	25-35	5-10
	13-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-45	10-20
1081:												
Slaw-----	0-13	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	75-90	25-35	5-10
	13-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-45	10-20
Sycomat-----												
	0-5	Silt loam	ML	A-4	0	0	85-100	80-100	75-100	70-90	15-30	NP-5
	5-26	Gravelly loam, gravelly silt loam, loam	GM, ML, SM	A-2, A-4	0	0	55-100	50-100	45-75	30-60	15-30	NP-5
	26-45	Gravelly coarse sandy loam, sandy loam, gravelly loam	GM, ML, SM	A-1, A-2, A-4	0	0	55-100	50-100	35-75	20-55	15-30	NP-5
	45-60	Very gravelly sand, very gravelly loamy sand	GP-GM, GP, SP-SM	A-1	0	0-5	30-70	25-50	20-35	0-10	---	NP
1084:												
Slaw-----	0-13	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	95-100	85-100	75-90	25-35	5-10
	13-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-45	10-20

TABLE 8.--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	
1093:												
Kyler-----	0-3	Extremely cobbly loam	GC-GM, GM	A-1, A-2	0-10	40-50	30-40	25-40	20-35	15-25	15-25	NP-10
	3-11	Very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0-10	10-40	55-70	50-65	40-60	25-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
Logring-----	0-3	Very gravelly loam	GM	A-1, A-2	0-5	10-15	45-60	35-55	25-50	20-35	15-25	NP-5
	3-10	Very cobbly loam, very cobbly fine sandy loam, extremely cobbly loam	GM, SM	A-1, A-2	0-10	30-50	50-70	40-60	20-45	15-30	15-25	NP-5
	10-14	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
1095:												
Kyler-----	0-3	Very cobbly loam	GC-GM, GM	A-1, A-2	0-10	40-50	30-40	25-40	20-35	15-25	15-25	NP-10
	3-11	Very gravelly very fine sandy loam, very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-4, A-2, A-1	0-10	15-40	55-78	42-65	40-60	22-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Amtoft-----	0-3	Very gravelly loam	SC, GC, GC-GM	A-2	0-17	6-17	56-79	39-52	32-48	17-35	25-35	5-15
	3-11	Very gravelly loam, extremely gravelly fine sandy loam, extremely gravelly loam	SC, SC-SM	A-2	0-11	0-16	55-81	25-50	21-47	12-36	25-35	10-15
	11-15	Bedrock			---	---	---	---	---	---	---	---
1096:												
Kyler-----	0-3	Very gravelly fine sandy loam	GC-GM, GM, SC-SM	A-1, A-2	0-10	10-50	30-70	25-50	20-45	15-27	15-25	NP-10
	3-11	Very gravelly very fine sandy loam, very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-4, A-2, A-1	0-10	15-40	55-78	42-65	40-60	22-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
Lodar-----	0-8	Very gravelly loam	SC, GC-GM	A-2, A-4	0-6	0-22	55-81	17-61	16-60	9-47	25-35	5-15
	8-16	Very gravelly loam, very gravelly sandy loam	GC, GC-GM, GP-GC	A-2, A-4	0-5	0-22	55-72	17-50	17-49	11-38	30-35	10-15
	16-20	Bedrock			---	---	---	---	---	---	---	---
1100:												
Linoyer-----	0-11	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	100	95-100	55-70	15-25	NP-10
	11-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-95	15-25	NP-10

TABLE 8.--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	
Heist-----	0-8	Loamy sand	GM, SM	A-1, A-2	0	0	55-100	50-83	35-68	20-30	20-25	NP-5
	8-20	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-91	35-88	10-40	20-25	NP-5
	20-60	Fine sandy loam	SM	A-1, A-2	0	0-5	75-100	45-87	25-84	10-22	15-25	NP-5
1103: Patter-----	0-2	Gravelly sandy loam	SC-SM, SC	A-1, A-2	0	0	72-80	50-70	35-50	15-30	20-30	5-10
	2-14	Silt loam, very fine sandy loam, loam	CL, SC-SM, CL-ML	A-4	0	0	90-100	75-90	72-87	41-78	20-30	5-10
	14-47	Paragravelly loam, paragravelly silt loam, paragravelly very fine sandy loam	CL, SC	A-4	0	0	90-100	75-90	72-90	41-78	20-30	5-10
	47-60	Gravelly loam, very fine sandy loam, silt loam	SC-SM, SC, CL	A-4	0	0	85-100	65-90	60-85	40-65	20-30	5-10
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ash very fine sandy loam, ash fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ash loamy coarse sand to ash silt loam	SC-SM, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5
1104: Colval-----	0-5	Silt loam	CL	A-6	0	0	100	100	100	80-90	30-40	15-20
	5-11	Silty clay loam	CL	A-7	0	0	100	100	100	90-95	35-50	15-30
	11-23	Silty clay loam	CL	A-7	0	0	100	100	100	75-100	40-50	20-30
	23-60	Silt loam	CL	A-6	0	0	100	100	100	80-100	35-45	15-25
Penoyer-----	0-8	Very fine sandy loam	ML	A-4	0	0	100	100	90-100	50-95	20-30	NP-5
	8-60	Silt loam, very fine sandy loam, loam	ML	A-4	0	0	100	100	95-100	70-95	20-30	NP-5
1106: Patter-----	0-2	Gravelly sandy loam	SC-SM, SC	A-1, A-2	0	0	72-80	50-70	35-50	15-30	20-30	5-10
	2-14	Silt loam, very fine sandy loam, loam	CL, SC-SM, CL-ML	A-4	0	0	90-100	75-90	72-87	41-78	20-30	5-10
	14-47	Paragravelly loam, paragravelly silt loam, paragravelly very fine sandy loam	CL, SC	A-4	0	0	90-100	75-90	72-90	41-78	20-30	5-10
	47-60	Gravelly loam, very fine sandy loam, silt loam	SC-SM, SC, CL	A-4	0	0	85-100	65-90	60-85	40-65	20-30	5-10

TABLE 8.--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	
1130: Handpah-----	0-2	Gravelly sandy loam	GC-GM, SC	A-2	0-1	0-10	35-85	30-70	20-65	15-35	25-30	5-10
	2-8	Gravelly sandy clay loam, gravelly loam, gravelly clay loam	GC, SC	A-6	0	0-10	60-85	60-75	50-60	40-50	35-40	15-20
	8-14	Very gravelly sandy loam	GM, GP-GM, SC-SM	A-1	0-5	0-25	40-70	25-45	20-40	5-20	20-30	NP-10
	14-18	Cemented material			---	---	---	---	---	---	---	---
	18-60	Cemented material			---	---	---	---	---	---	---	---
Chuckridge-----	0-2	Gravelly loam	SC, SM	A-1, A-2, A-4	0	0-10	70-84	50-75	30-54	20-40	20-30	NP-10
	2-11	Gravelly clay loam, gravelly sandy clay loam, gravelly loam	SC	A-6	0	0-5	70-88	50-75	45-60	35-50	30-40	10-15
	11-60	Cemented material			---	---	---	---	---	---	---	---
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ashy very fine sandy loam, ashy fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ashy loamy coarse sand to ashy silt loam	SC-SM, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5
1131: Handpah-----	0-2	Gravelly fine sandy loam	SM, GM	A-2	0	0-10	60-85	50-75	40-65	25-35	15-25	NP-5
	2-8	Gravelly clay loam, gravelly loam, gravelly sandy clay loam	GC, SC	A-6	0	0-10	60-85	60-75	50-60	40-50	35-40	15-20
	8-14	Very gravelly sandy loam	GM, GP-GM	A-1	0-5	10-25	40-55	25-45	20-30	5-15	---	NP
	14-18	Cemented material			---	---	---	---	---	---	---	---
	18-60	Cemented material			---	---	---	---	---	---	---	---
Watoopah-----	0-4	Gravelly loamy sand	SM	A-1, A-2	0	0	70-100	55-75	35-60	10-30	15-20	NP
	4-14	Sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	70-100	60-100	40-80	20-50	15-30	5-10
	14-40	Gravelly loamy sand, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	60-100	50-95	30-70	20-50	0-15	NP
	40-60	Stratified very gravelly coarse sand to coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-85	50-75	30-50	5-25	0-20	NP

TABLE 8.--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	
Littleaillie-----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6
1132: Handpah-----	0-2	Gravelly sandy loam	SC, GC-GM	A-2	0-1	0-10	35-85	30-70	20-65	15-35	25-30	5-10
	2-8	Gravelly sandy clay loam, gravelly loam, gravelly clay loam	GC, SC	A-6	0	0-10	60-85	60-75	50-60	40-50	35-40	15-20
	8-14	Very gravelly sandy loam	GM, GP-GM, SC-SM	A-1	0-5	0-25	40-70	25-45	20-40	5-20	20-30	NP-10
	14-18	Cemented material			---	---	---	---	---	---	---	---
	18-60	Cemented material			---	---	---	---	---	---	---	---
Veet-----	0-4	Gravelly sandy loam	SM	A-2, A-1	0	0-10	75-90	50-75	40-60	25-35	15-25	NP-5
	4-16	Very gravelly sandy loam	GC-GM, GC	A-2, A-1	0	10-25	40-60	35-55	25-50	15-25	20-25	5-10
	16-60	Stratified very gravelly loamy coarse sand to extremely gravelly sandy loam	GM, GP-GM	A-1	0	10-25	45-55	30-50	15-30	5-15	---	NP

TABLE 8.--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	
1133:	In											
Lojet-----	0-4	Coarse sandy loam	SC, SC-SM	A-2	0	0-7	80-100	65-100	50-80	20-45	22-32	6-12
	4-11	Sandy clay loam, clay loam	SC	A-6, A-7	0	0	65-100	65-100	60-90	35-70	37-46	19-25
	11-28	Gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	SC	A-2	0	0-7	70-85	45-80	40-70	20-50	37-46	19-25
	28-35	Very gravelly sandy clay loam, gravelly clay loam, gravelly sandy clay loam	SC	A-2	0	0-7	70-85	50-80	40-70	20-50	37-46	19-25
	35-41	Cemented material			---	---	---	---	---	---	---	---
	41-60	Very gravelly coarse sandy loam, very gravelly loamy coarse sand, gravelly loamy coarse sand	SM, SC-SM, SC	A-1, A-2	0	0-6	70-90	40-65	35-50	10-30	15-26	1-9
Qwynn-----	0-7	Gravelly coarse sandy loam	SC, SC-SM	A-1, A-2	0	0	80-90	55-80	35-50	20-30	20-32	4-12
	7-28	Gravelly sandy loam, sandy loam, gravelly coarse sandy loam	SC, SC-SM	A-2, A-1	0	0	80-100	65-90	45-65	25-35	19-30	4-12
	28-52	Gravelly loam, gravelly coarse sandy loam, gravelly sandy clay loam	SC	A-2	0	0	75-90	55-80	40-70	20-35	29-39	12-19
	52-70	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly loamy coarse sand	SC, SC-SM, SM	A-2, A-1	0	0	60-80	40-55	25-35	12-20	16-30	2-12
Littleaillie----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6

TABLE 8.--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	
1134: Lojet-----	0-4	Coarse sandy loam	SC, SC-SM	A-2	0	0-7	80-100	65-100	50-80	20-45	22-32	6-12
	4-11	Sandy clay loam, clay loam	SC	A-6, A-7	0	0	65-100	65-100	60-90	35-70	37-46	19-25
	11-28	Gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	SC	A-2	0	0-7	70-85	45-80	40-70	20-50	37-46	19-25
	28-35	Very gravelly sandy clay loam, gravelly clay loam, gravelly sandy clay loam	SC	A-2	0	0-7	70-85	50-80	40-70	20-50	37-46	19-25
	35-41	Cemented material			---	---	---	---	---	---	---	---
	41-60	Very gravelly coarse sandy loam, very gravelly loamy coarse sand, gravelly loamy coarse sand	SM, SC-SM, SC	A-1, A-2	0	0-6	70-90	40-65	35-50	10-30	15-26	1-9
Chuckmill-----	0-4	Gravelly ashy loam	SC	A-4	0	0-10	70-90	50-75	30-60	20-40	20-30	NP-10
	4-14	Gravelly ashy clay loam, gravelly ashy sandy clay loam, gravelly ashy loam	SC	A-6	0	0-5	70-88	50-75	45-60	35-50	30-40	10-15
	14-60	Cemented material			---	---	---	---	---	---	---	---
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ashy very fine sandy loam, ashy fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ashy loamy coarse sand to ashy silt loam	SC-SM, GM, SM	A-4, A-2	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
1138: Littleailie-----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6
Lien-----	0-3	Very gravelly loam	GC	A-1, A-2	0	0	40-60	30-50	25-40	20-30	20-35	5-15
	3-8	Very gravelly fine sandy loam, very gravelly sandy loam, extremely gravelly loam	GC, GM, GP-GM	A-1, A-2	0	0	20-50	15-40	10-35	5-25	20-35	NP-15
	8-24	Cemented material			---	---	---	---	---	---	---	---
	24-60	Cemented gravelly loamy fine sand			0	0-10	61-79	57-79	53-76	19-30	---	NP-4
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ashy very fine sandy loam, ashy fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ashy loamy coarse sand to ashy silt loam	SC-SM, GM, SM	A-4, A-2	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5
1140: Cowgil-----	0-4	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0-5	40-55	30-45	15-30	10-25	15-25	NP-10
	4-21	Very gravelly sandy clay loam	GC	A-2	0-5	10-25	50-65	40-55	35-50	20-30	30-40	10-20
	21-61	Very cobbly loamy sand, very gravelly loamy sand, extremely gravelly sand	GM, GP, GP-GM	A-1	0-5	10-35	35-55	25-50	15-30	0-15	0-14	NP

TABLE 8.--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	
Yody-----	0-4	Gravelly sandy loam	SM	A-1	0	0-5	70-80	65-75	40-50	20-25	15-25	NP-3
	4-30	Gravelly sandy clay loam, gravelly clay loam	SC	A-6	0	0-5	75-85	65-75	55-65	35-50	30-40	10-20
	30-36	Gravelly loam, gravelly sandy loam, gravelly loamy sand	GM, SM	A-1, A-2	0	0-5	60-70	50-60	35-50	20-35	20-25	NP-5
	36-60	Cemented material			---	---	---	---	---	---	---	---
Fax-----	0-3	Very cobbly coarse sandy loam	GM, SM	A-1	0	25-50	50-75	45-65	20-40	10-20	15-25	NP-5
	3-12	Very gravelly sandy clay loam, very cobbly sandy clay loam	GC	A-2, A-6	0-15	0-40	40-70	30-60	20-50	10-40	30-40	10-20
	12-22	Very gravelly sandy clay loam, very cobbly coarse sandy loam	GC, GC-GM, SC, SC-SM	A-2	0-30	10-50	40-65	30-55	15-45	10-25	25-35	5-15
	22-48	Cemented material			---	---	---	---	---	---	---	---
1150: Zoda-----	0-5	Gravelly ashy sandy loam	SC, SC-SM	A-2	0	0	80-90	50-75	40-70	20-45	20-30	5-10
	5-15	Gravelly ashy sandy clay loam	SM	A-2	0	0	80-90	50-75	40-65	20-35	30-40	10-15
	15-24	Gravelly ashy sandy clay loam	SC	A-2	0	0	80-90	50-75	40-65	20-35	30-40	10-15
	24-32	Cemented material			---	---	---	---	---	---	---	---
	32-60	Cemented material			---	---	---	---	---	---	---	---
Cath-----	0-3	Silt loam	SM	A-1, A-2	0	0	90-100	75-100	10-50	10-35	15-25	NP-5
	3-21	Clay loam, sandy clay loam, gravelly clay loam	CL, SC	A-6, A-7	0	0	80-100	65-100	60-90	40-85	35-45	15-25
	21-33	Very gravelly loam, very gravelly sandy clay loam	SC, GC	A-2	0	0	30-74	25-50	20-43	15-35	30-40	10-20
	33-60	Stratified very gravelly loamy coarse sand to very gravelly loam	SM, GM, GP-GM	A-1	0	0	30-75	25-50	20-46	5-21	---	NP
1151: Watoopah-----	0-4	Gravelly loamy sand	SM	A-1, A-2	0	0	70-100	55-75	35-65	10-30	15-20	NP
	4-14	Sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	70-100	60-100	40-80	20-50	15-30	5-10
	14-40	Gravelly loamy sand, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	60-100	50-95	30-70	20-50	0-15	NP
	40-60	Stratified very gravelly coarse sand to coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-85	50-75	30-50	5-25	0-20	NP

TABLE 8.--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	
1200:												
Urmafot-----	0-10	Very gravelly loam	GM	A-1, A-2	0	0	30-60	25-50	20-45	15-35	25-35	NP-5
	10-20	Gravelly loam	GM, ML	A-2, A-4	0	0	60-80	50-75	40-65	30-60	25-35	NP-5
	20-39	Cemented material			---	---	---	---	---	---	---	---
	39-60	Stratified extremely gravelly coarse sandy loam to extremely gravelly sandy loam	GM, GP, GP- GM, GW-GM	A-1	0-10	10-40	15-40	5-30	0-25	0-20	15-25	NP-5
Bobs-----	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	40-55	35-50	30-45	20-35	20-25	NP-5
	3-14	Gravelly loam, gravelly very fine sandy loam, gravelly silt loam	GM, SM	A-4	0	0-15	60-80	50-75	45-70	35-50	20-25	NP-5
	14-20	Cemented material			---	---	---	---	---	---	---	---
Palinor-----	0-10	Gravelly loam	GM, SM	A-4	0	0-10	60-90	50-85	45-65	35-50	20-25	NP-5
	10-18	Extremely gravelly fine sandy loam, extremely gravelly loam, very gravelly loam	GM	A-1, A-2	0	0-10	20-45	15-40	10-35	10-30	20-25	NP-5
	18-30	Cemented material			---	---	---	---	---	---	---	---
	30-60	Stratified gravelly sandy loam to extremely gravelly coarse sand	GM	A-1, A-2	0	0-30	30-50	20-45	15-35	10-30	---	NP
1210:												
Palinor-----	0-10	Very gravelly loam	GM	A-1, A-2	0	0-10	30-50	25-50	25-45	20-35	20-25	NP-5
	10-18	Extremely gravelly fine sandy loam, extremely gravelly loam, very gravelly loam	GM	A-1, A-2	0	0-10	20-45	15-40	10-35	10-30	20-25	NP-5
	18-30	Cemented material			---	---	---	---	---	---	---	---
	30-60	Stratified gravelly sandy loam to extremely gravelly coarse sand	GM	A-1, A-2	0	0-30	30-50	20-45	15-35	10-30	---	NP
1211:												
Palinor-----	0-3	Gravelly loam	GM, SM	A-4	0	0-10	60-90	50-85	45-65	35-50	20-25	NP-5
	3-16	Extremely gravelly fine sandy loam, extremely gravelly loam, very gravelly loam	GM	A-1, A-2	0	0-10	20-45	15-40	10-35	10-30	20-25	NP-5
	16-35	Cemented material			---	---	---	---	---	---	---	---
	35-60	Stratified gravelly sandy loam to extremely gravelly coarse sand	GM	A-1, A-2	0	0-30	30-50	20-45	15-35	10-30	---	NP

TABLE 8.--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	
Broland-----	0-3	Very gravelly loam	GC, GC-GM, GM	A-2, A-4, A-6	0	0-10	40-55	30-45	25-45	25-40	20-35	NP-15
	3-9	Gravelly clay loam, gravelly sandy clay loam	CL, GC, SC	A-2, A-6, A-7	0	0-10	60-85	50-75	35-65	30-55	35-45	15-20
	9-16	Extremely gravelly sandy clay loam, very gravelly clay loam, extremely gravelly clay loam	GC	A-2	0	5-25	40-60	30-55	25-45	15-25	30-40	10-15
	16-19	Extremely gravelly sandy loam, very gravelly sandy loam	GC-GM, GM	A-2, A-1	0-5	0-25	30-60	20-50	15-30	10-20	20-30	NP-10
	19-40	Cemented material			---	---	---	---	---	---	---	---
	40-60	Extremely gravelly coarse sand	GW, GW-GM	A-1	0	0-5	20-35	10-25	5-20	0-10	0-14	NP
1215: Ursine-----	0-2	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-90	65-75	60-70	40-55	20-35	5-15
	2-8	Gravelly loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	60-90	55-80	40-60	20-35	5-15
	8-16	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	16-60	Cemented material			---	---	---	---	---	---	---	
Jarab-----	0-4	Very gravelly sandy loam	CL-ML, ML, SC-SM, SM	A-1, A-4	0	0-25	65-95	50-90	33-80	20-60	15-30	NP-10
	4-13	Very gravelly loam	SC, GC	A-2	0	0-10	40-74	30-50	25-45	20-35	30-40	10-20
	13-60	Cemented material			---	---	---	---	---	---	---	
1220: Lien-----	0-3	Very gravelly sandy loam	GC	A-1, A-2	0	0	40-60	30-50	20-40	10-25	20-31	4-10
	3-8	Very gravelly fine sandy loam, very gravelly sandy loam, extremely gravelly loam	GC, GP-GC	A-1, A-2	0	0	20-50	15-40	10-35	5-25	20-31	4-12
	8-24	Cemented material			---	---	---	---	---	---	---	
	24-60	Cemented gravelly loamy fine sand	SM		0	0-10	61-79	57-79	53-76	19-30	0-20	NP-4

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Devildog-----	In											
	0-4	Very gravelly ashy coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, very gravelly ashy coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16
1230: Yotes-----	0-12	Gravelly ashy sandy loam	SC-SM	A-1	0	0	75-95	50-75	30-50	20-30	20-30	NP-10
	12-21	Gravelly ashy loam, gravelly ashy sandy loam	SC-SM	A-2	0	0	75-95	50-75	35-60	20-45	20-30	NP-10
	21-60	Gravelly ashy sandy loam, gravelly ashy loam	SC-SM	A-2	0	0	75-95	50-75	35-60	20-45	20-30	NP-10
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ashy very fine sandy loam, ashy fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ashy loamy coarse sand to ashy silt loam	SC-SM, GM, SM	A-4, A-2	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5
1231: Newvil-----	0-3	Very gravelly ashy coarse sandy loam	GC, GC-GM, SP-SC	A-2	0	5-15	60-70	40-65	20-45	10-35	25-30	5-10
	3-12	Gravelly ashy sandy clay loam, gravelly ashy clay loam, gravelly ashy loam	GC, SC	A-6	0	0-10	60-80	55-75	45-55	35-50	25-35	10-20
	12-17	Gravelly ashy loam	GC, GC-GM	A-2, A-4	0	0-10	50-60	50-60	40-50	30-40	25-30	5-10
	17-48	Cemented material			---	---	---	---	---	---	---	---
	48-60	Very gravelly ashy coarse sand	GP, SP	A-1	0-5	5-10	50-60	40-50	20-30	0-5	0-14	NP

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
Nevu-----	0-5	Gravelly ashy sandy loam	GC-GM, SC-SM	A-2, A-4	0	0-5	55-80	50-75	40-55	25-40	20-30	5-10
	5-27	Gravelly ashy clay loam, gravelly ashy sandy clay loam, gravelly ashy loam	CL, GC, SC	A-6	0	0-5	60-85	50-75	45-60	35-55	35-45	15-20
	27-36	Cemented material			---	---	---	---	---	---	---	---
	36-60	Gravelly ashy sandy loam	GM, SC-SM	A-2	0	0-5	60-85	50-70	40-60	25-35	15-25	NP-5
Ponyspring----	0-6	Gravelly ashy loamy fine sand	ML	A-4	0	0-6	85-95	65-80	40-80	40-80	15-25	NP-5
	6-30	Gravelly ashy sandy clay loam	SM	A-2	0	0-11	85-95	65-85	40-75	20-50	30-40	10-15
	30-60	Gravelly ashy coarse sandy loam, gravelly ashy sandy clay loam	SC	A-6	0	0-10	80-90	70-85	40-85	20-65	30-45	10-20
1232: Nevu-----	0-5	Gravelly ashy sandy loam	GC-GM, SC-SM	A-2, A-4	0	0-5	55-80	50-75	40-55	25-40	20-30	5-10
	5-27	Gravelly ashy clay loam, gravelly ashy sandy clay loam, gravelly ashy loam	CL, GC, SC	A-6	0	0-5	60-85	50-75	45-60	35-55	35-45	15-20
	27-36	Cemented material			---	---	---	---	---	---	---	---
	36-60	Gravelly ashy sandy loam	GM, SC-SM	A-2	0	0-5	60-85	50-70	40-60	25-35	15-25	NP-5
Ponyspring----	0-6	Gravelly ashy loamy coarse sand	SM, ML	A-4	0	0-6	85-95	65-80	40-75	40-75	15-25	NP-5
	6-30	Gravelly ashy sandy clay loam	SM	A-2	0	0-11	85-95	65-85	40-75	20-50	30-40	10-15
	30-60	Gravelly ashy coarse sandy loam, gravelly ashy sandy clay loam	SC	A-6	0	0-10	80-90	70-85	40-85	20-65	30-45	10-20
Okayview-----	0-3	Gravelly ashy coarse sandy loam	SC	A-2	0-3	0-8	85-95	70-90	55-75	25-37	25-35	10-15
	3-11	Ashy sandy clay loam	SC	A-2	0	0-8	90-95	75-90	65-75	30-40	35-45	15-25
	11-21	Bedrock			---	---	---	---	---	---	---	---
1240: Sycomat-----	0-5	Gravelly sandy loam	SM	A-4	0	0	65-100	55-80	40-70	10-40	15-30	NP-5
	5-26	Gravelly loam, gravelly silt loam, loam	GM, ML, SM	A-2, A-4	0	0	55-100	50-100	45-75	30-60	15-30	NP-5
	26-45	Gravelly coarse sandy loam, sandy loam, gravelly loam	GM, ML, SM	A-1, A-2, A-4	0	0	55-100	50-100	35-75	20-55	15-30	NP-5
	45-60	Very gravelly sand, very gravelly loamy sand	SP-SM, GP-GM, GP, SP	A-1	0	0-5	30-70	25-50	20-35	0-10	---	NP

TABLE 8.--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	
1330: Amelar-----	0-6	Gravelly silt loam	GC, GC-GM, SC, SC-SM	A-4, A-6	0	0-15	60-85	50-75	50-70	40-50	25-35	5-15
	6-15	Very cobbly silty clay loam, very cobbly clay loam	GC	A-2, A-6, A-7	0-5	20-40	50-75	40-65	35-50	30-50	35-45	15-20
	15-60	Very gravelly silt loam, very gravelly loam	GC, GC-GM	A-2	0-5	0-20	40-60	30-50	30-45	20-35	25-35	5-15
Eoj-----	0-6	Very stony loam	GC	A-2, A-6	5-20	15-20	55-65	50-60	40-50	30-45	25-35	10-15
	6-60	Cobbly clay	CH, CL	A-7	0-5	10-40	85-95	80-90	75-85	65-75	45-65	20-35
Hardol-----	0-8	Very gravelly silt loam	GM	A-1, A-2	0-10	10-25	40-55	35-50	25-45	20-35	25-35	NP-5
	8-33	Extremely gravelly silt loam	GM	A-1	0-10	15-40	20-40	10-30	10-25	10-20	25-35	NP-5
	33-60	Extremely gravelly loam	GM, GP-GM	A-1, A-2	0-10	15-40	20-40	10-30	10-25	5-20	25-35	NP-10
1340: Heist-----	0-8	Loamy sand	GM, SM	A-1, A-2	0	0	55-100	50-83	35-68	20-30	20-25	NP-5
	8-20	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-91	35-88	10-40	20-25	NP-5
	20-60	Fine sandy loam	SM	A-1, A-2	0	0-5	75-100	45-87	25-84	10-22	15-25	NP-5
Heist-----	0-8	Loamy sand	GM, SM	A-1, A-2	0	0	55-100	50-83	35-68	20-30	20-25	NP-5
	8-20	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-91	35-88	10-40	20-25	NP-5
	20-60	Fine sandy loam	SM	A-1, A-2	0	0-5	75-100	45-87	25-84	10-22	15-25	NP-5
1350: Heist-----	0-8	Loamy sand	GM, SM	A-1, A-2	0	0	55-100	50-83	35-68	20-30	20-25	NP-5
	8-20	Fine sandy loam, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-91	35-88	10-40	20-25	NP-5
	20-60	Fine sandy loam	SM	A-1, A-2	0	0-5	75-100	45-87	25-84	10-22	15-25	NP-5
Chuffa-----	0-3	Silt loam	CL, CL-ML	A-4	0	0	100	100	80-100	75-100	20-30	5-10
	3-13	Loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-90	25-40	5-15
	13-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20

TABLE 8.--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						
				Pct	Pct					Pct		
1359: Devildog-----	In											
	0-4	Very gravelly ashy coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, very gravelly ashy coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16
Gardenvalley----	0-3	Gravelly fine sandy loam	SC, SC-SM	A-2	0	0	65-95	55-75	45-70	20-30	21-30	6-12
	3-16	Sandy loam, fine sandy loam, very fine sandy loam	SC, CL, CL-ML	A-4, A-2	0	0	90-100	80-100	60-100	25-60	20-30	6-12
	16-44	Very fine sandy loam, fine sandy loam, sandy loam	SC, SC-SM, CL	A-4, A-2	0	0	95-100	85-100	60-100	25-55	20-29	6-12
	44-62	Very gravelly sandy loam, very gravelly loamy coarse sand, very gravelly loamy sand	GM, SM, SP-SM, GP-GM	A-1	0	0	45-65	35-50	30-40	10-15	0-22	NP-6
Qwynn-----	0-3	Gravelly coarse sandy loam	SC, SC-SM	A-1, A-2	0	0	80-90	55-80	35-50	20-30	20-32	4-12
	3-28	Gravelly sandy loam, sandy loam, gravelly coarse sandy loam	SC, SC-SM	A-2, A-1	0	0	80-100	65-90	45-65	25-35	19-30	4-12
	28-52	Gravelly coarse sandy loam, gravelly loam, gravelly sandy clay loam	SC	A-2	0	0	75-90	55-80	40-70	20-35	29-39	12-19
	52-70	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly loamy coarse sand	SC, SC-SM, SM	A-2, A-1	0	0	60-80	40-55	25-35	12-20	16-30	2-12

TABLE 8.--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	
Ursine-----	0-2	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-90	65-75	60-70	40-55	20-35	5-15
	2-5	Gravelly loam, loam, gravelly fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	65-80	55-80	40-60	20-35	5-15
	5-18	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	18-70	Cemented material			---	---	---	---	---	---	---	---
Eastmore-----	0-3	Gravelly sandy loam	SM	A-1, A-2, A-4	0	0-5	65-80	60-75	40-60	20-40	20-25	NP-5
	3-17	Very gravelly fine sandy loam, gravelly fine sandy loam, extremely gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2	0	0-10	40-60	35-50	20-40	10-30	20-35	NP-15
	17-49	Cemented material			---	---	---	---	---	---	---	---
	49-65	Very gravelly loamy sand, very gravelly loamy coarse sand, gravelly fine sandy loam, very gravelly fine sandy loam	GC-GM, GM	A-4, A-2	0-5	0-25	50-70	45-60	35-55	30-50	20-30	NP-10
1388:												
Eastmore-----	0-3	Gravelly sandy loam	SM	A-1, A-2, A-4	0	0-5	65-80	60-75	40-60	20-40	20-25	NP-5
	3-17	Very gravelly fine sandy loam, gravelly fine sandy loam, extremely gravelly fine sandy loam	GC, GC-GM, GM	A-1, A-2	0	0-10	40-60	35-50	20-40	10-30	20-35	NP-15
	17-49	Cemented material			---	---	---	---	---	---	---	---
	49-65	Very gravelly loamy sand, very gravelly loamy coarse sand, gravelly fine sandy loam, very gravelly fine sandy loam	GC-GM, GM	A-4, A-2	0-5	0-25	50-70	45-60	35-55	30-50	20-30	NP-10
Summermute-----	0-3	Gravelly loam	ML, SM	A-2, A-4	0	0	65-95	50-75	45-70	30-60	20-25	NP-5
	3-11	Gravelly silt loam, gravelly loam	ML, SM	A-2, A-4	0	0	65-95	50-75	45-70	30-60	20-25	NP-5
	11-16	Very gravelly silt loam, very gravelly loam	GM	A-1, A-2	0	0	30-55	25-50	20-50	15-35	20-25	NP-5
	16-43	Very gravelly sandy loam	GM	A-1, A-2	0	10-25	35-55	30-50	15-40	10-30	20-25	NP-5
	43-60	Very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-1	0-10	0-15	40-65	30-55	15-35	10-25	15-25	NP-5

TABLE 8.--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	
Ursine-----	0-2	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-90	65-75	60-70	40-55	20-35	5-15
	2-5	Gravelly loam, loam, gravelly fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	65-80	55-80	40-60	20-35	5-15
	5-18	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	18-70	Cemented material			---	---	---	---	---	---	---	---
1400: Suak-----	0-10	Very stony loam	GC-GM, GM	A-1, A-2	10-20	25-40	45-65	40-60	30-40	20-35	20-30	NP-10
	10-25	Extremely cobbly loam, extremely gravelly loam	GC	A-2	0	30-60	25-45	20-35	15-30	10-25	30-35	10-15
	25-29	Bedrock			---	---	---	---	---	---	---	---
Segura-----	0-3	Very cobbly loam	SC, GC-GM, SC-SM	A-4	0-5	30-45	65-80	55-70	45-60	35-50	25-30	5-10
	3-14	Gravelly clay loam, gravelly loam, sandy clay loam	SC	A-2, A-6, A-7	0-3	0-5	60-90	55-85	40-60	30-50	30-45	10-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
McIvey-----	0-18	Very gravelly loam	GC	A-2	0	0-10	35-60	25-50	25-45	15-35	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	CL, GC, SC	A-7	0	0-10	55-85	45-75	40-70	30-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0-25	10-55	45-60	35-50	35-45	30-45	45-55	20-30
1430: Hardzem-----	0-1	Channery loam	SC-SM, SC	A-4	0	0-25	70-80	65-75	50-70	35-50	20-30	5-10
	1-21	Very channery loam, extremely channery loam, extremely channery clay loam	GC	A-2	0-5	10-25	20-50	15-45	10-40	10-35	30-40	10-15
	21-52	Bedrock			---	---	---	---	---	---	---	---
	52-56	Bedrock			---	---	---	---	---	---	---	---
Hackwood-----	0-23	Gravelly silt loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	23-32	Gravelly loam, gravelly silt loam	CL, CL-ML, GC-GM, SC- SM, GC	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	32-60	Very gravelly clay loam, very gravelly silty clay loam, very gravelly loam	GC	A-2, A-6	0	0	40-60	35-50	30-45	25-40	35-40	15-20

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
Guiser-----	0-7	Extremely cobbly loam	GC-GM, GM	A-1, A-2	0-5	30-60	25-45	15-35	15-35	10-30	20-30	NP-10
	7-15	Extremely cobbly coarse sandy loam, extremely cobbly sandy loam	GM, GP-GM, GW-GM	A-1	0	45-55	25-55	15-45	10-30	5-15	15-25	NP-5
	15-36	Extremely cobbly loam, extremely cobbly sandy clay loam	GC, GC-GM	A-2	0	40-50	40-55	30-45	15-35	10-20	25-35	5-15
	36-60	Extremely gravelly coarse sandy loam, extremely gravelly loamy coarse sand	GP-GM, GW-GM	A-1	0	0-30	20-30	10-30	5-15	5-10	15-20	NP-5
1435:												
Haunchee-----	0-7	Very cobbly loam	GC-GM	A-2, A-1	0	35-40	50-60	40-55	25-40	20-30	20-30	5-10
	7-19	Very gravelly loam, very gravelly very fine sandy loam	GC-GM	A-2, A-1	0	0-30	35-60	25-50	20-35	15-30	20-30	5-10
	19-23	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
1470:												
Tybo-----	0-3	Gravelly fine sandy loam	GM, SM	A-1, A-2	0	0-5	55-80	50-75	40-65	20-35	15-25	NP-5
	3-17	Gravelly sandy loam, fine sandy loam, very fine sandy loam	SM	A-1, A-2, A-4	0	0-5	60-95	55-90	35-80	20-50	15-25	NP-5
	17-60	Cemented material			---	---	---	---	---	---	---	---
Koyen-----	0-4	Gravelly sandy loam	SM	A-2, A-4	0	0	65-90	50-75	40-65	25-40	15-25	NP-5
	4-45	Sandy loam	SM	A-2, A-4	0	0	80-90	75-85	50-60	25-40	15-25	NP-5
	45-60	Gravelly loamy sand, very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0	0	50-60	45-55	25-35	5-15	---	NP
1473:												
Tybo-----	0-3	Gravelly coarse sandy loam	SM, GM, SC-SM	A-1, A-2	0	0-5	55-80	50-75	40-65	20-35	15-25	NP-5
	3-17	Fine sandy loam, gravelly sandy loam, very fine sandy loam	SM	A-1, A-2, A-4	0	0-5	60-95	55-90	35-80	20-50	15-25	NP-5
	17-60	Cemented material			---	---	---	---	---	---	---	---
Leo-----	0-4	Very gravelly sandy loam	GM, GP-GM, SM, SP-SM	A-1	0	0	45-65	25-50	20-40	5-25	15-25	NP-5
	4-60	Stratified extremely gravelly coarse sand to gravelly fine sandy loam	GM, GP-GM, SM, SP-SM	A-1	0-5	0-25	45-60	40-50	15-35	5-20	---	NP

TABLE 8.--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	
Jarab-----	0-4	Very gravelly sandy loam	CL-ML, ML, SC-SM, SM	A-1, A-4	0	0-25	65-95	50-90	33-80	20-60	15-30	NP-10
	4-13	Very gravelly clay loam, very gravelly loam	SC, GC	A-2	0	0-10	40-74	30-50	25-45	20-35	30-40	10-20
	13-60	Cemented material			---	---	---	---	---	---	---	---
Pamsdel-----	0-10	Gravelly loam	SC	A-2, A-4	0	0-7	65-90	35-70	15-65	15-60	30-35	10-15
	10-19	Very gravelly loam	SC	A-2	0	0	70-80	35-50	15-35	15-35	30-35	10-15
	19-53	Cemented material			---	---	---	---	---	---	---	---
	53-62	Gravel	GP	A-1	0	0-10	45-55	0	0	0	---	---
1525: Ubehebe-----	0-7	Very channery sandy loam	GM, SM	A-1	0	0-10	55-65	40-50	30-40	15-25	15-25	NP-5
	7-12	Very channery loam	GC-GM, SC-SM, GC	A-2	0	0-10	60-70	45-55	35-45	25-35	25-30	5-10
	12-19	Very channery loam	GC, GC-GM	A-2	0	5-15	50-60	40-55	35-50	25-35	25-35	5-15
	19-29	Bedrock			---	---	---	---	---	---	---	---
Penelas-----	0-5	Very channery loam	GC-GM, GM	A-1, A-2	0-5	15-40	30-55	25-50	20-40	15-35	20-30	NP-10
	5-13	Very channery clay loam, extremely channery silty clay loam	GC, GP-GC	A-2	0-3	5-25	15-30	10-25	5-25	5-25	35-45	15-20
	13-18	Bedrock			---	---	---	---	---	---	---	---
Kyler-----	0-3	Very gravelly very fine sandy loam	GC-GM, GM	A-1, A-2	0-5	20-30	40-65	35-60	30-55	20-30	15-25	NP-10
	3-11	Very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0-10	10-40	55-70	50-65	40-60	25-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
1700: Garfan-----	0-8	Very gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	10-25	40-65	30-55	25-50	20-40	25-35	5-15
	8-27	Extremely cobbly clay, extremely cobbly clay loam	GC, GP-GC, GW-GC	A-2	0-5	25-50	20-45	10-35	10-25	5-15	40-50	20-30
	27-60	Extremely gravelly clay, extremely gravelly clay loam	GC	A-2	0-5	5-25	25-40	20-35	15-30	10-25	40-50	20-30
Garfan-----	0-8	Very gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	10-25	40-65	30-55	25-50	20-40	25-35	5-15
	8-27	Extremely cobbly clay, extremely cobbly clay loam	GC, GP-GC, GW-GC	A-2	0-5	25-50	20-45	10-35	10-25	5-15	40-50	20-30
	27-60	Extremely gravelly clay, extremely gravelly clay loam	GC	A-2	0-5	5-25	25-40	20-35	15-30	10-25	40-50	20-30

TABLE 8.--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	
McIvey-----	0-12	Extremely gravelly sandy loam	GC, SC	A-2, A-6	0	0-10	60-85	25-75	20-70	10-50	30-40	10-15
	12-16	Very gravelly clay loam, very gravelly loam	GC, SC	A-2, A-6	0-10	0-10	50-80	35-70	35-50	25-45	30-40	10-15
	16-31	Extremely gravelly clay, very gravelly clay loam, gravelly clay loam	CL, GC, SC	A-2, A-7	0-15	0-10	55-85	25-75	25-70	20-55	40-45	15-20
	31-60	Very gravelly clay loam, very gravelly clay, very cobbly clay, extremely cobbly clay	GC, SC	A-2, A-7	0-15	0-55	40-70	30-70	30-45	20-45	45-55	20-30
1701: Suak-----	0-11	Very gravelly loam	GC-GM, GM	A-1, A-2	0-15	5-40	45-65	40-60	30-40	20-35	20-30	NP-10
	11-21	Extremely gravelly loam, extremely cobbly loam	GC	A-2	0	25-60	25-60	20-35	15-30	10-25	30-35	10-15
	21-31	Bedrock			---	---	---	---	---	---	---	---
Chen-----	0-3	Very cobbly loam	SC, GC	A-2	0-10	0-45	50-90	35-50	30-45	25-35	30-35	10-15
	3-12	Extremely gravelly clay, very gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	25-60	60-70	25-65	20-60	20-45	50-60	25-35
	12-16	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
1730: Qwynn-----	0-3	Gravelly coarse sandy loam	SC, SC-SM	A-1, A-2	0	0	80-90	55-80	35-50	20-30	20-32	4-12
	3-28	Gravelly sandy loam, sandy loam, gravelly coarse sandy loam	SC, SC-SM	A-2, A-1	0	0	80-100	65-90	45-65	25-35	19-30	4-12
	28-52	Gravelly coarse sandy loam, gravelly loam, gravelly sandy clay loam	SC	A-2	0	0	75-90	55-80	40-70	20-35	29-39	12-19
	52-70	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly loamy coarse sand	SC, SC-SM, SM	A-2, A-1	0	0	60-80	40-55	25-35	12-20	16-30	2-12

TABLE 8.--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	
Devildog-----	0-4	Very gravelly ash coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ash coarse sandy loam, very gravelly ash sandy loam, very gravelly ashy coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC-GM, SC, SC-SM, GC	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16
1731: Cath-----	0-3	Gravelly loam	GC-GM, SC-SM, SC	A-4	0	0	60-85	50-75	45-65	35-50	20-30	5-10
	3-21	Clay loam, sandy clay loam, gravelly clay loam	CL, SC	A-6, A-7	0	0	80-100	65-100	60-90	40-85	35-45	15-25
	21-33	Very gravelly loam, very gravelly sandy clay loam	SC, GC	A-2	0	0	30-74	25-50	20-43	15-35	30-40	10-20
	33-60	Stratified very gravelly loamy coarse sand to very gravelly loam	SM, GM, GP-GM	A-1	0	0	30-75	25-50	20-46	5-21	---	NP
Chuckridge-----	0-2	Gravelly sandy clay loam	SC, SM	A-1, A-2, A-4	0	0-10	70-84	50-75	30-54	20-40	20-30	NP-10
	2-11	Gravelly clay loam, gravelly sandy clay loam, gravelly loam	SC	A-6	0	0-5	70-88	50-75	45-60	35-50	30-40	10-15
	11-60	Cemented material			---	---	---	---	---	---	---	---
1732: Cath-----	0-3	Gravelly loam	GC-GM, SC-SM, SC	A-4	0	0	60-85	50-75	45-65	35-50	20-30	5-10
	3-21	Clay loam, sandy clay loam, gravelly clay loam	CL, SC	A-6, A-7	0	0	80-100	65-100	60-90	40-85	35-45	15-25
	21-33	Very gravelly loam, very gravelly sandy clay loam	SC	A-2	0	0	30-74	25-50	20-43	15-35	30-40	10-20
	33-60	Stratified very gravelly loamy coarse sand to very gravelly loam	SM, GM, GP-GM	A-1	0	0	30-75	25-50	20-46	5-21	---	NP

TABLE 8.--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		
Watoopah-----	In											
	0-4	Gravelly loamy sand	SM	A-1, A-2	0	0	70-100	55-75	35-65	10-30	15-20	NP
	4-14	Sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	70-100	60-100	40-80	20-50	15-30	5-10
	14-40	Gravelly loamy sand, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	60-100	50-95	30-70	20-50	0-15	NP
	40-60	Stratified very gravelly coarse sand to coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-85	50-75	30-50	5-25	0-20	NP
Escalante-----	0-3	Very gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5
1733: Cath-----	0-3	Gravelly loam	GC-GM, SC-SM, SC	A-4	0	0	60-85	50-75	45-65	35-50	20-30	5-10
	3-21	Clay loam, sandy clay loam, gravelly clay loam	CL, SC	A-6, A-7	0	0	80-100	65-100	60-90	40-85	35-45	15-25
	21-33	Very gravelly loam, very gravelly sandy clay loam	GC, SC	A-2	0	0	30-74	25-50	20-43	15-35	30-40	10-20
	33-60	Stratified very gravelly loamy coarse sand to very gravelly loam	GM, GP-GM, SM	A-1	0	0	30-75	25-50	20-46	5-21	---	NP
Watoopah-----	0-4	Gravelly loamy sand	SM	A-1, A-2	0	0	70-100	55-75	35-65	10-30	15-20	NP
	4-14	Sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	70-100	60-100	40-80	20-50	15-30	5-10
	14-40	Gravelly loamy sand, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	60-100	50-95	30-70	20-50	0-15	NP
	40-60	Stratified very gravelly coarse sand to coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-85	50-75	30-50	5-25	0-20	NP
Escalante-----	0-3	Very gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5

TABLE 8.--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	
1949:												
Richinde-----	0-5	Very gravelly sandy loam	SC-SM, SC	A-1, A-2	0-5	0-15	65-85	35-55	25-40	12-20	20-31	4-12
	5-18	Very gravelly sandy clay loam	SC	A-2	0-5	7-22	65-87	35-60	30-50	20-35	37-46	19-25
	18-22	Bedrock			---	---	---	---	---	---	---	---
Chubard-----	0-4	Very gravelly fine sandy loam	SC, SP-SC	A-2	0-5	0-11	60-75	30-45	20-40	10-20	21-30	6-12
	4-7	Extremely gravelly sandy clay loam, extremely cobbly sandy clay loam, extremely cobbly clay loam	GC, GP-GC	A-2	0-2	0-20	15-35	10-30	10-30	5-20	30-42	12-21
	7-10	Extremely gravelly clay loam, extremely gravelly sandy clay loam, extremely gravelly coarse sandy loam	GC, GP-GC	A-2	0-5	0-11	15-35	10-30	10-29	5-25	29-44	12-23
	10-14	Bedrock			---	---	---	---	---	---	---	---
Chubard-----	0-4	Very gravelly fine sandy loam	SC, SP-SC	A-2	0-5	0-11	60-75	30-45	20-40	10-20	21-30	6-12
	4-7	Extremely gravelly sandy clay loam, extremely cobbly sandy clay loam, extremely cobbly clay loam	GC, GP-GC	A-2	0-2	0-20	15-35	10-30	10-30	5-20	30-42	12-21
	7-10	Extremely gravelly clay loam, extremely gravelly sandy clay loam, extremely gravelly coarse sandy loam	GC, GP-GC	A-2	0-5	0-11	15-35	10-30	10-29	5-25	29-44	12-23
	10-14	Bedrock			---	---	---	---	---	---	---	---
1955:												
Treadwell-----	0-5	Gravelly sandy loam	SM	A-1	0	0-14	80-94	56-77	43-66	18-34	20-25	NP-1
	5-8	Extremely gravelly sandy loam, extremely gravelly fine sandy loam	SP-SM, SM	A-1	0	0-11	59-67	16-30	12-28	5-14	20-25	NP-2
	8-35	Cemented material			---	---	---	---	---	---	---	---
	35-60	Extremely gravelly coarse sand, extremely gravelly loamy coarse sand	SP-SM, SW	A-1	0	0	58-68	19-29	14-24	3-8	0-12	NP

TABLE 8.--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		
Chuckridge-----	In											
	0-2	Very cobbly loam	SC, SM	A-1, A-2, A-4	0	0-30	70-84	50-75	30-54	20-40	20-30	NP-10
	2-11	Gravelly clay loam, gravelly sandy clay loam, gravelly loam	SC	A-6	0	0-5	70-88	50-75	45-60	35-50	30-40	10-15
	11-60	Cemented material			---	---	---	---	---	---	---	---
Handpah-----	0-2	Gravelly sandy loam	GC-GM, SC	A-2	0-1	0-10	35-85	30-70	20-65	15-35	25-30	5-10
	2-8	Gravelly sandy clay loam, gravelly loam, gravelly clay loam	GC, SC	A-6	0	0-10	60-85	60-75	50-60	40-50	35-40	15-20
	8-14	Very gravelly sandy loam	GM, GP-GM, SC-SM	A-1	0-5	0-25	40-70	25-45	20-40	5-20	20-30	NP-10
	14-18	Cemented material			---	---	---	---	---	---	---	---
	18-60	Cemented material			---	---	---	---	---	---	---	
1957: Malmesa-----	0-3	Very gravelly fine sandy loam	GM, SM	A-1	0-5	7-40	50-70	40-60	35-50	15-25	20-25	NP-5
	3-12	Very cobbly clay loam, very gravelly sandy clay loam	GC, GM	A-2, A-6, A-7	0-5	7-40	50-70	40-60	35-55	30-45	35-45	10-20
	12-16	Extremely cobbly loam, very gravelly loam, very cobbly sandy loam	GM	A-1, A-2	0-15	7-45	40-85	35-70	25-65	15-50	20-25	NP-5
	16-17	Cemented material			---	---	---	---	---	---	---	---
	17-21	Bedrock			---	---	---	---	---	---	---	---
Nevoyer-----	0-4	Gravelly fine sandy loam	SC, GC	A-2, A-4	0	0-15	60-75	55-70	45-60	30-45	24-33	7-12
	4-17	Cobbly sandy loam, cobbly very fine sandy loam, cobbly loam, gravelly fine sandy loam	GC, SC	A-2, A-4, A-6	0	0-20	60-90	60-80	50-75	30-45	22-30	7-12
	17-18	Cemented material			---	---	---	---	---	---	---	---
	18-22	Bedrock			---	---	---	---	---	---	---	---
Treadwell-----	0-5	Gravelly sandy loam	SM	A-1	0	0-14	80-94	56-77	43-66	18-34	20-25	NP-1
	5-8	Extremely gravelly sandy loam, extremely gravelly fine sandy loam	SP-SM, SM	A-1	0	0-11	59-67	16-30	12-28	5-14	20-25	NP-2
	8-35	Cemented material			---	---	---	---	---	---	---	---
	35-60	Extremely gravelly coarse sand, extremely gravelly loamy coarse sand	SP-SM, SW	A-1	0	0	58-68	19-29	14-24	3-8	0-12	NP

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
2000: Playas-----	0-6	Silty clay loam	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
	6-60	Silty clay loam, clay, silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
2010: Chuffa-----	0-3	Silt loam	CL, CL-ML	A-4	0	0	100	100	80-100	75-100	20-30	5-10
	3-13	Loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-90	25-40	5-15
	13-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
Chuffa-----	0-3	Silt loam	CL, CL-ML	A-4	0	0	100	100	80-100	75-100	20-30	5-10
	3-13	Loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-90	25-40	5-15
	13-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
2020: Yobe-----	0-11	Silt loam	ML, CL	A-4	0	0	100	95-100	95-100	75-95	30-40	5-15
	11-18	Silty clay loam	CL, ML	A-6	0	0	100	95-100	95-100	85-95	30-50	10-20
	18-60	Loam	CL, ML	A-4	0	0-5	80-100	75-100	60-100	30-65	15-30	NP-10
Yobe-----	0-11	Silt loam	CL, ML	A-4	0	0	100	95-100	95-100	75-95	30-40	5-15
	11-18	Silty clay loam	CL, ML	A-6	0	0	100	95-100	95-100	85-95	30-50	10-20
	18-60	Loam	CL, ML	A-4	0	0-5	80-100	75-100	60-100	30-65	15-30	NP-10
2030: Teebone-----	0-2	Silty clay loam	CL, CH	A-7	0	0	100	100	100	90-100	45-55	25-35
	2-31	Silty clay loam, silty clay	CL, CH	A-7	0	0	100	100	100	90-100	45-65	25-40
	31-60	Silty clay loam, silty clay, clay	CL, CH	A-7	0	0	100	100	100	90-100	45-65	25-40
Yobe-----	0-11	Silt loam	CL, ML	A-4	0	0	100	95-100	95-100	75-95	30-40	5-15
	11-18	Silty clay loam	CL, ML	A-6	0	0	100	95-100	95-100	85-95	30-50	10-20
	18-60	Loam	CL, ML	A-4	0	0-5	80-100	75-100	60-100	30-65	15-30	NP-10
2041: Kolda-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	70-90	25-35	5-15
	6-22	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-90	25-35	5-15
	22-60	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	45-60	20-30

TABLE 8.--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	
Duffer-----	In											
	0-11	Silt loam	CL, CL-ML	A-4	0	0	100	100	90-100	75-90	25-30	5-10
	11-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	48-66	Stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	75-95	25-35	5-15
2050:												
Ragnel-----	0-3	Very gravelly loamy sand	SP	A-1	0	0	60-80	30-45	5-10	0-5	---	NP
	3-11	Very gravelly loam, very gravelly sandy loam	GC-GM, GM, GP-GM, SC-SM, SM, SW-SM	A-1	0	0	45-70	25-50	15-35	5-15	25-30	NP-5
	11-60	Very gravelly sand, very gravelly sandy loam	GP, GP-GM, SP, SP-SM	A-1	0	0	45-60	25-50	5-25	0-10	---	NP
2060:												
Crestline-----	0-5	Fine sandy loam	CL-ML, ML, SC-SM, SM, SC	A-2, A-4	0	0	95-100	90-100	60-90	30-55	20-30	NP-10
	5-10	Loam	CL-ML, SC-SM, CL	A-2, A-4	0	0	80-100	75-100	60-95	30-70	20-30	5-10
	10-51	Gravelly sandy loam	SC-SM, SM	A-1, A-2	0	0-5	65-95	60-95	35-60	15-35	20-30	NP-10
	51-60	Very gravelly loamy sand, very gravelly sand, very gravelly sandy loam	GP, GP-GM, SM	A-1	0	0-10	35-70	30-70	25-35	0-15	15-20	NP
Crestline-----	0-5	Fine sandy loam	CL-ML, ML, SC-SM, SM, SC	A-2, A-4	0	0	95-100	90-100	60-90	30-55	20-30	NP-10
	5-10	Loam	CL-ML, SC-SM, CL	A-2, A-4	0	0	80-100	75-100	60-95	30-70	20-30	5-10
	10-51	Gravelly sandy loam	SC-SM, SM	A-1, A-2	0	0-5	65-95	60-95	35-60	15-35	20-30	NP-10
	51-60	Very gravelly loamy sand, very gravelly sand, very gravelly sandy loam	GP, GP-GM, SM	A-1	0	0-10	35-70	30-70	25-35	0-15	15-20	NP
Veet-----	0-4	Very gravelly sandy loam	SC-SM, SC	A-2, A-1	0-1	0-6	62-73	31-53	27-46	10-24	20-35	5-15
	4-16	Very gravelly sandy loam	GC-GM, GC	A-2, A-1	0	10-25	40-60	35-55	25-50	15-25	20-25	5-10
	16-60	Stratified very gravelly loamy coarse sand to extremely gravelly sandy loam	GM, GP-GM	A-1	0	10-25	45-55	30-50	15-30	5-15	---	NP

TABLE 8.--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	
2061: Crestline-----	0-5	Fine sandy loam	CL-ML, ML, SC-SM, SM, SC	A-2, A-4	0	0	95-100	90-100	60-90	30-55	20-30	NP-10
	5-10	Loam	CL-ML, SC-SM, CL	A-2, A-4	0	0	80-100	75-100	60-95	30-70	20-30	5-10
	10-51	Gravelly sandy loam	SC-SM, SM	A-1, A-2	0	0-5	65-95	60-95	35-60	15-35	20-30	NP-10
	51-60	Very gravelly loamy sand, very gravelly sand, very gravelly sandy loam	GP, GP-GM, SM	A-1	0	0-10	35-70	30-70	25-35	0-15	15-20	NP
Linoyer-----	0-11	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	85-100	60-90	15-25	NP-10
	11-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-95	15-25	NP-10
2071: Chuffa-----	0-3	Silt loam	CL, CL-ML	A-4	0	0	100	100	80-100	75-100	20-30	5-10
	3-13	Loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-90	25-40	5-15
	13-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
Linoyer-----	0-11	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	85-100	60-90	15-25	NP-10
	11-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-95	15-25	NP-10
Playas-----	0-6	Silty clay loam	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
	6-60	Silty clay loam, clay, silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
2100: Glotrain-----	0-4	Gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0	75-98	55-78	30-50	15-30	19-29	3-10
	4-26	Gravelly coarse sandy loam	SC, SC-SM	A-2	0	0	75-95	55-75	30-45	20-30	21-30	6-12
	26-60	Stratified coarse sand to very gravelly loamy coarse sand	SP-SM, SC-SM, SM	A-1	0	0-6	65-80	40-55	20-30	5-15	15-23	1-6

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Devildog-----	In				Pct	Pct					Pct	
	0-4	Very gravelly ash coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ash coarse sandy loam, very gravelly ash sandy loam, very gravelly ash coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16
2120: Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ash very fine sandy loam, ash fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ash loamy coarse sand to ash silt loam	SC-SM, GM, SM	A-4, A-2	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5
Devildog-----	0-4	Very gravelly ash coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ash coarse sandy loam, very gravelly ash sandy loam, very gravelly ash coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16

TABLE 8.--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	
2122: Lojet-----	0-4	Coarse sandy loam	SC, SC-SM	A-2	0	0-7	80-100	65-100	50-80	20-45	22-32	6-12
	4-11	Sandy clay loam, clay loam	SC	A-6, A-7	0	0	65-100	65-100	60-90	35-70	37-46	19-25
	11-28	Gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	SC	A-2	0	0-7	70-85	45-80	40-70	20-50	37-46	19-25
	28-35	Very gravelly sandy clay loam, gravelly clay loam, gravelly sandy clay loam	SC	A-2	0	0-7	70-85	50-80	40-70	20-50	37-46	19-25
	35-41	Cemented material			---	---	---	---	---	---	---	---
	41-60	Very gravelly coarse sandy loam, very gravelly loamy coarse sand, gravelly loamy coarse sand	SM, SC-SM, SC	A-1, A-2	0	0-6	70-90	40-65	35-50	10-30	15-26	1-9
Littleailie----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
2304: Chubard-----	0-4	Very gravelly fine sandy loam	SC, SP-SC	A-2	0-5	0-11	60-75	30-45	20-40	10-20	21-30	6-12
	4-7	Extremely gravelly sandy clay loam, extremely cobbly sandy clay loam, extremely cobbly clay loam	GC, GP-GC	A-2	0-2	0-20	15-35	10-30	10-30	5-20	30-42	12-21
	7-10	Extremely gravelly clay loam, extremely gravelly sandy clay loam, extremely gravelly coarse sandy loam	GC, GP-GC	A-2	0-5	0-11	15-35	10-30	10-29	5-25	29-44	12-23
	10-14	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
2305: Chubard-----	0-4	Very gravelly fine sandy loam	SC, SP-SC	A-2	0-5	0-11	60-75	30-45	20-40	10-20	21-30	6-12
	4-7	Extremely gravelly sandy clay loam, extremely cobbly sandy clay loam, extremely cobbly clay loam	GC, GP-GC	A-2	0-2	0-20	15-35	10-30	10-30	5-20	30-42	12-21
	7-10	Extremely gravelly clay loam, extremely gravelly sandy clay loam, extremely gravelly coarse sandy loam	GC, GP-GC	A-2	0-5	0-11	15-35	10-30	10-29	5-25	29-44	12-23
	10-14	Bedrock			---	---	---	---	---	---	---	---
Littleaillie----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6

TABLE 8.--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	
Blackcan-----	0-4	Very gravelly sandy loam	SC, SC-SM	A-1, A-2	0-1	0-15	59-92	38-76	32-76	15-45	21-30	4-11
	4-7	Very gravelly sandy loam, extremely gravelly sandy loam	SC, SC-SM	A-2, A-1-a	0	0-6	60-72	30-47	28-47	13-30	23-30	6-11
	7-14	Very gravelly sandy loam, very gravelly loamy coarse sand, extremely gravelly sandy loam	SC-SM	A-1, A-1-a	0	0	51-67	13-51	11-47	4-27	15-26	2-8
	14-60	Cemented material			---	---	---	---	---	---	---	---
3010: Anaud-----	0-10	Very cobbly loam	GC-GM, SC-SM, SC	A-2	1-5	45-55	60-75	55-65	35-45	30-40	20-30	5-10
	10-16	Very cobbly clay loam, very cobbly loam	SC	A-2	0	40-50	70-95	60-85	35-50	30-40	25-40	10-20
	16-20	Bedrock			---	---	---	---	---	---	---	---
Cagas-----	0-5	Extremely cobbly ashly sandy loam	GM, GP-GM, SM, SP-SM	A-1	5-15	45-55	40-60	35-55	25-30	5-15	15-25	NP-5
	5-12	Extremely cobbly ashly sandy loam, extremely cobbly loam	GM, GP-GM	A-1, A-2	0-5	45-60	20-50	15-45	10-40	5-30	20-35	NP-5
	12-19	Extremely cobbly ashly sandy clay loam, extremely cobbly loam	GC, GP-GC	A-2	0-5	45-60	20-50	15-45	10-40	5-30	30-40	10-20
	19-27	Extremely cobbly ashly sandy loam	GW-GM, GM, GP-GM	A-1	0-5	45-60	20-50	15-45	10-40	5-15	20-25	NP-5
	27-37	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
3036: Kyler-----	0-3	Extremely cobbly loam	GC-GM, GM	A-1, A-2	0-10	40-50	30-40	25-40	20-35	15-25	15-25	NP-10
	3-11	Very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0-10	15-40	55-70	50-65	40-60	25-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
Amtoft-----	0-3	Very gravelly loam	GC, GC-GM	A-2	0	0	30-55	25-50	20-45	15-35	25-35	5-15
	3-11	Very gravelly loam, extremely gravelly loam	GC, GC-GM	A-2	0	0	25-55	20-50	15-45	10-35	20-35	5-15
	11-15	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
3170: Linoyer-----	0-10	Silt loam	CL-ML, ML	A-4	0	0	100	100	85-100	70-90	15-25	NP-10
	10-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-95	15-25	NP-10

TABLE 8.--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	
Escalante-----	0-3	Gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5
3190:												
Penoyer-----	0-8	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	20-30	NP-5
	8-60	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	20-30	NP-5
Geer-----	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	100	85-95	40-65	15-25	NP-5
	12-65	Stratified fine sandy loam to silt loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	85-95	45-75	15-30	NP-10
3192:												
Saltydog-----	0-4	Loam	CL	A-6	0	0	100	85-100	85-100	65-80	28-37	10-13
	4-17	Clay loam	CL	A-7, A-6	0	0	100	90-100	90-98	75-85	34-47	15-21
	17-46	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	65-75	28-41	11-17
	46-65	Gravelly sand, sand, loamy sand	SM, SP-SM	A-2, A-1	0	0	85-100	50-100	45-70	9-20	0-19	NP-3
Ambush-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	85-100	30-55	20-25	5-10
	5-14	Very gravelly sandy loam, very gravelly fine sandy loam, gravelly loam	SC-SM	A-1	0	0	75-85	50-70	30-60	15-40	20-30	5-10
	14-61	Fine sandy loam, loam, sandy loam	SC-SM	A-4	0	0	100	100	85-100	30-55	25-30	5-10
Panacker-----	0-5	Fine sandy loam	SC-SM, SC	A-4	0	0	99-100	95-100	70-85	35-50	21-32	5-9
	5-13	Fine sandy loam, sandy clay loam	SC	A-6, A-7	0	0	99-100	95-100	70-90	35-50	28-45	11-20
	13-39	Sandy clay loam, sandy loam	SC	A-6, A-7	0	0	100	100	65-85	35-50	26-43	11-20
	39-73	Sandy loam, sandy clay loam, fine sandy loam	SC, SC-SM	A-4, A-6, A-7	0	0	100	100	65-85	30-50	22-43	7-22
3193:												
Ewelac-----	0-3	Silt loam	CH, CL	A-7	0	0	100	100	95-100	89-95	45-55	25-35
	3-10	Silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	85-95	45-55	25-35
	10-35	Silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	85-97	45-55	25-35
	35-60	Clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	78-95	45-55	25-35
Playas-----	0-6	Silty clay loam	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
	6-60	Silty clay loam, clay, silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40

TABLE 8.--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		
3194:												
Ambush-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	85-100	30-55	20-25	5-10
	5-14	Very gravelly sandy loam, very gravelly fine sandy loam, gravelly loam	SC-SM	A-1	0	0	75-85	50-70	30-60	15-40	20-30	5-10
	14-61	Fine sandy loam, loam, sandy loam	SC-SM	A-4	0	0	100	100	85-100	30-55	25-30	5-10
Panacker-----												
	0-5	Fine sandy loam	SC-SM, SC	A-4	0	0	99-100	95-100	70-85	35-50	21-32	5-9
	5-13	Fine sandy loam, sandy clay loam	SC	A-6, A-7	0	0	99-100	95-100	70-90	35-50	28-45	11-20
	13-39	Sandy clay loam, sandy loam	SC	A-6, A-7	0	0	100	100	65-85	35-50	26-43	11-20
	39-73	Sandy loam, sandy clay loam, fine sandy loam	SC, SC-SM	A-4, A-6, A-7	0	0	100	100	65-85	30-50	22-43	7-22
Playas-----												
	0-6	Silty clay loam	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
	6-60	Silty clay loam, clay, silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
3196:												
Saltydog-----	0-4	Loam	CL	A-6	0	0	100	85-100	85-100	65-80	28-37	10-13
	4-17	Clay loam	CL	A-7, A-6	0	0	100	90-100	90-98	75-85	34-47	15-21
	17-46	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	65-75	28-41	11-17
	46-65	Gravelly sand, sand, loamy sand	SM, SP-SM	A-2, A-1	0	0	85-100	50-100	45-70	9-20	0-19	NP-3
Geer-----												
	0-12	Fine sandy loam	ML, SM	A-4	0	0	100	80-100	75-95	40-65	15-25	NP-5
	12-65	Fine sandy loam	ML, SM	A-4	0	0	85-100	80-100	75-95	40-75	15-25	NP-5
3198:												
Ambush-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	85-100	30-55	20-25	5-10
	5-14	Very gravelly sandy loam, very gravelly fine sandy loam, gravelly loam	SC-SM	A-1	0	0	75-85	50-70	30-60	15-40	20-30	5-10
	14-61	Fine sandy loam, loam, sandy loam	SC-SM	A-4	0	0	100	100	85-100	30-55	25-30	5-10
Penoyer-----												
	0-8	Very fine sandy loam	ML	A-4	0	0	100	100	90-100	50-95	20-30	NP-5
	8-60	Silt loam, very fine sandy loam, loam	ML	A-4	0	0	100	100	95-100	70-95	20-30	NP-5
3221:												
Rouette-----	0-6	Loam	ML	A-4	0	0	80-95	75-90	65-85	50-70	20-25	NP-5
	6-17	Gravelly loam, loam	GM, ML	A-4	0	0	70-95	60-90	50-85	35-70	20-25	NP-5
	17-23	Cemented material			---	---	---	---	---	---	---	---
	23-60	Extremely gravelly sand, very gravelly sand	GP-GM, SP-SM	A-1	0	0	40-70	20-40	10-30	5-10	---	NP

TABLE 8.--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	
Ursine-----	0-2	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-90	65-75	60-70	40-55	20-35	5-15
	2-5	Gravelly loam, loam, gravelly fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	70-95	65-80	55-80	40-60	20-35	5-15
	5-18	Very gravelly loam, very gravelly silt loam, very gravelly sandy loam	GC-GM, SC-SM	A-1, A-2	0	0-5	30-70	25-50	15-45	10-35	20-30	5-10
	18-70	Cemented material			---	---	---	---	---	---	---	---
Escalante-----	0-3	Gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5
3290:												
Kunzler-----	0-4	Gravelly sandy loam	GM, SM	A-1, A-2, A-4	0	0	55-80	50-75	35-60	15-40	15-25	NP-5
	4-11	Loam	CL-ML, ML	A-4	0	0	90-100	85-100	65-95	50-75	20-30	NP-10
	11-41	Fine sandy loam, sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	45-80	25-50	20-30	NP-10
	41-60	Loam	CL-ML, ML	A-4	0	0	90-100	85-100	65-95	50-75	20-30	NP-10
Sycomat-----	0-3	Gravelly loam	SM	A-1, A-2	0	0	65-75	55-70	40-55	10-20	15-30	NP-5
	3-21	Gravelly loam, gravelly silt loam, loam	GM, ML, SM	A-2, A-4	0	0	55-100	50-100	45-75	30-60	15-30	NP-5
	21-48	Gravelly coarse sandy loam, sandy loam, gravelly loam	GM, ML, SM	A-1, A-2, A-4	0	0	55-100	50-100	35-75	20-55	15-30	NP-5
	48-60	Very gravelly sand, very gravelly loamy sand	GP-GM, GP	A-1	0	0-5	30-55	25-50	20-35	0-10	---	NP
3409:												
Devildog-----	0-4	Very gravelly ashy coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, very gravelly ashy coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16

TABLE 8.--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	
Qwynn-----	In											
	0-3	Gravelly coarse sandy loam	SC, SC-SM	A-1, A-2	0	0	80-90	55-80	35-50	20-30	20-32	4-12
	3-28	Gravelly sandy loam, sandy loam, gravelly coarse sandy loam	SC, SC-SM	A-2, A-1	0	0	80-100	65-90	45-65	25-35	19-30	4-12
	28-52	Gravelly coarse sandy loam, gravelly loam, gravelly sandy clay loam	SC	A-2	0	0	75-90	55-80	40-70	20-35	29-39	12-19
	52-70	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly loamy coarse sand	SC, SC-SM, SM	A-2, A-1	0	0	60-80	40-55	25-35	12-20	16-30	2-12
Lojet-----	0-4	Coarse sandy loam	SC, SC-SM	A-2	0	0-7	80-100	65-100	50-80	20-45	22-32	6-12
	4-11	Sandy clay loam, clay loam	SC	A-6, A-7	0	0	65-100	65-100	60-90	35-70	37-46	19-25
	11-28	Gravelly clay loam, gravelly sandy clay loam, very gravelly sandy clay loam	SC	A-2	0	0-7	70-85	45-80	40-70	20-50	37-46	19-25
	28-35	Very gravelly sandy clay loam, gravelly clay loam, gravelly sandy clay loam	SC	A-2	0	0-7	70-85	50-80	40-70	20-50	37-46	19-25
	35-41	Cemented material			---	---	---	---	---	---	---	---
	41-60	Very gravelly coarse sandy loam, very gravelly loamy coarse sand, gravelly loamy coarse sand	SM, SC-SM, SC	A-1, A-2	0	0-6	70-90	40-65	35-50	10-30	15-26	1-9
3411: Watoopah-----	0-2	Gravelly loamy sand	SM	A-1, A-2	0	0	70-100	55-75	35-60	10-30	15-20	NP
	2-12	Sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	70-100	60-100	40-80	20-50	15-30	5-10
	12-18	Gravelly loamy sand, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	60-100	50-95	30-70	20-50	15-15	NP
	18-60	Stratified very gravelly coarse sand to coarse sandy loam	SM, SW-SM	A-1	0	0-5	60-85	50-75	30-50	5-25	0-20	NP

TABLE 8.--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	
Cath-----	0-6	Gravelly loam	GC-GM, SC-SM, SC	A-4	0	0	60-85	50-75	45-65	35-50	20-30	5-10
	6-20	Clay loam, sandy clay loam, gravelly clay loam	CL, SC	A-6, A-7	0	0	80-100	65-100	60-90	40-85	35-45	15-25
	20-28	Very gravelly sandy clay loam	GC	A-2	0	0	30-60	25-50	20-40	15-35	30-40	10-20
	28-60	Stratified very gravelly loamy coarse sand to very gravelly loam	GM, GW-GM	A-1	0	0	30-60	25-50	20-40	5-20	---	NP
3412: Watoopah-----	0-2	Gravelly loamy sand	SM	A-1, A-2	0	0	70-100	55-75	35-60	10-30	15-20	NP
	2-12	Sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	70-100	60-100	40-80	20-50	15-30	5-10
	12-18	Gravelly loamy sand, gravelly sandy loam, sandy loam	SM	A-1, A-2, A-4	0	0-5	60-100	50-95	30-70	20-50	15-15	NP
	18-60	Stratified very gravelly coarse sand to coarse sandy loam	SM, SW-SM	A-1	0	0-5	60-85	50-75	30-50	5-25	0-20	NP
Devildog-----	0-4	Very gravelly ashy coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, very gravelly ashy coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
3462: Littleailie-----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6
Devildog-----	0-4	Very gravelly ashly coarse sandy loam	GC-GM, SM, GM	A-1	0	0-10	45-65	35-55	20-33	12-20	16-30	NP-5
	4-12	Gravelly ashly coarse sandy loam, very gravelly ashly sandy loam, very gravelly ashly coarse sandy loam	SC-SM, SM, GM	A-1, A-2	0	0-5	48-85	38-75	25-50	15-30	16-31	NP-5
	12-38	Stratified extremely gravelly coarse sand to very gravelly coarse sandy loam	GM, SC-SM, SM	A-1	0	0-10	40-70	30-60	20-35	10-20	15-30	1-12
	38-60	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-1, A-2	0	0-5	50-80	40-70	30-55	20-35	20-35	6-16
3466: Littleailie-----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
Littleailie----	0-3	Gravelly sandy loam	SC, SC-SM	A-2, A-1	0	0-8	60-95	55-80	40-65	20-30	20-32	4-12
	3-8	Gravelly sandy loam, very gravelly coarse sandy loam, gravelly loam	SC	A-2	0	0-8	75-80	45-70	30-55	15-40	25-36	9-17
	8-19	Very gravelly sandy loam, very gravelly loamy sand, very gravelly coarse sandy loam	SC-SM, SC, SM	A-1, A-2	0	0-12	65-80	35-55	20-40	10-20	15-30	1-12
	19-41	Cemented material			---	---	---	---	---	---	---	---
	41-62	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand, very gravelly sandy loam	SP-SM, SM	A-1	0	0-30	30-80	15-45	10-30	5-15	0-23	NP-6
3580:												
Kyler-----	0-3	Very gravelly very fine sandy loam	GC-GM, GM	A-1, A-2	0-5	20-30	40-65	35-60	30-55	20-30	15-25	NP-10
	3-11	Very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0-10	10-40	55-70	50-65	40-60	25-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	
3610:												
Threedogs-----	0-4	Loam	CL	A-6, A-4	0	0	80-100	75-100	70-95	55-75	25-35	8-19
	4-12	Loam, silt loam	CL	A-6, A-4	0	0	100	90-100	80-95	65-75	30-40	9-20
	12-35	Silty clay loam, clay loam	CL	A-6, A-7	0	0	100	90-100	85-100	50-95	37-43	16-20
	35-60	Loam, clay loam	CL	A-6	0	0	80-100	75-100	70-95	60-75	30-40	11-20
	60-71	Very fine sandy loam, loam, clay loam	SC, CL	A-6, A-4	0	0	80-100	75-100	70-85	40-55	26-40	8-18
slaw-----												
	0-5	Silt loam	CL-ML, ML, CL	A-4	0	0	95-100	95-100	85-100	75-90	25-35	5-10
	5-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-45	10-20
3612:												
Littlespring----	0-5	Coarse sandy loam	SC-SM	A-2, A-1	0	0	80-95	75-90	50-60	20-25	15-25	4-7
	5-10	Sandy loam, loam, sandy clay loam	SC, SC-SM	A-2, A-6	0	0	80-95	75-90	55-75	25-45	20-35	5-15
	10-27	Clay loam	CL, SC	A-6, A-7	0	0	80-95	75-90	65-75	45-55	35-45	15-20
	27-75	Stratified very gravelly sand to sandy clay loam	SM	A-1	0	0	55-65	50-60	30-40	10-15	10-15	NP-4

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Rock outcrop----	In	---	---	---	---	---	---	---	---	---	---	---
Kyler-----	0-3	Very gravelly very fine sandy loam	GC-GM, GM, SC-SM	A-1, A-2	0-10	10-25	30-70	25-50	20-45	15-27	15-25	NP-10
	3-11	Very gravelly very fine sandy loam, very cobbly loam, very gravelly loam	GC-GM, GM, SC-SM, SM	A-1, A-4, A-2	0-10	15-40	55-78	42-65	40-60	22-40	15-25	NP-10
	11-15	Bedrock			---	---	---	---	---	---	---	---
3675: Radol-----	0-2	Very gravelly loam	GC	A-2, A-1, A-6	0-11	0-56	50-73	33-54	33-52	16-41	20-35	5-15
	2-15	Extremely cobbly loam, very gravelly loam	GC	A-2	0-11	0-55	51-67	34-42	29-41	22-33	30-35	10-15
	15-19	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Lodar-----	0-8	Very gravelly loam	SC, GC-GM	A-2, A-4	0-6	0-22	55-81	17-61	16-60	9-47	25-35	5-15
	8-16	Very gravelly loam, very gravelly sandy loam	GC, GC-GM, GP-GC	A-2, A-4	0-5	0-22	55-72	17-50	17-49	11-38	30-35	10-15
	16-20	Bedrock			---	---	---	---	---	---	---	---
3700: Leo-----	0-4	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	65-85	50-75	40-60	20-35	15-25	NP-5
	4-60	Stratified extremely gravelly coarse sand to gravelly fine sandy loam	GM, GP-GM, SM, SP-SM	A-1	0-5	0-25	45-60	40-50	15-35	5-20	---	NP
Delamar-----	0-3	Gravelly sandy loam	SM, SC-SM	A-1, A-2, A-4	0	0	90-100	75-100	45-80	10-50	0-25	NP-5
	3-10	Gravelly sandy clay loam, sandy loam, gravelly clay loam	CL, SC	A-2, A-6	0	0-5	65-100	60-90	50-80	30-55	30-40	10-20
	10-21	Gravelly clay loam, clay loam	GC, SC	A-2, A-6, A-7	0	0-5	60-90	55-85	40-65	30-50	35-45	15-25
	21-34	Gravelly sandy loam, gravelly loamy coarse sand, gravelly coarse sand	SM, SC-SM	A-1, A-2, A-4	0	0	60-83	50-75	30-50	10-50	0-25	NP-5
	34-60	Cemented material			---	---	---	---	---	---	---	---
3701: Leo-----	0-4	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0	65-85	50-75	40-60	20-35	15-25	NP-5
	4-60	Stratified extremely gravelly coarse sand to gravelly fine sandy loam	GM, GP-GM, SM, SP-SM	A-1	0-5	0-25	45-60	40-50	15-35	5-20	---	NP

TABLE 8.--ENGINEERING PROPERTIES

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In											
Tybo-----	0-3	Gravelly fine sandy loam	SM, GM, SC-SM	A-1, A-2	0	0-5	55-80	50-75	40-65	20-35	15-25	NP-5
	3-17	Gravelly sandy loam, fine sandy loam, very fine sandy loam	SM	A-1, A-2, A-4	0	0-5	60-95	55-90	35-80	20-50	15-25	NP-5
	17-60	Cemented material			---	---	---	---	---	---	---	---
3860:												
Hyzen-----	0-2	Extremely stony loam	GM	A-1, A-2	25-50	5-40	30-60	20-50	20-35	15-30	25-35	NP-5
	2-12	Extremely stony loam	GM	A-1, A-2	25-40	5-25	30-50	20-45	10-35	10-30	25-35	NP-5
	12-16	Bedrock			---	---	---	---	---	---	---	---
Eganroc-----	0-9	Very stony loam	GC, GC-GM	A-2	15-30	5-20	25-55	20-50	15-35	10-30	25-35	5-15
	9-34	Extremely gravelly loam, very gravelly loam	GC-GM, GM, GC	A-2	0	10-25	20-60	15-55	15-50	10-35	25-35	5-10
	34-38	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
3870:												
Newvil-----	0-3	Ashy sandy loam	GC, GC-GM, SC	A-4	0	0	85-100	75-100	40-90	10-70	25-30	5-10
	3-12	Gravelly ash sandy clay loam, gravelly ash clay loam, gravelly ashy loam	GC, SC	A-6	0	0-10	60-80	55-75	45-55	35-50	25-35	10-20
	12-17	Gravelly ash loam	GC, GC-GM	A-2, A-4	0	0-10	50-60	50-60	40-50	30-40	25-30	5-10
	17-48	Cemented material			---	---	---	---	---	---	---	---
	48-60	Very gravelly ash coarse sand	GP, SP	A-1	0-5	5-10	50-60	40-50	20-30	0-5	0-14	NP
Chuckmill-----	0-4	Gravelly ash loam	SC	A-1, A-2, A-4	0	0-10	70-90	50-75	30-60	20-40	20-30	NP-10
	4-14	Gravelly ash clay loam, gravelly ash sandy clay loam, gravelly ashy loam	SC	A-6	0	0-5	70-90	50-75	45-60	35-50	30-40	10-15
	14-60	Cemented material			---	---	---	---	---	---	---	---
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ash very fine sandy loam, ash fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ash loamy coarse sand to ash silt loam	SC-SM, GM, SM	A-4, A-2	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5

TABLE 8.--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	
3892: Slockey-----	0-4	Very gravelly ashy sandy clay loam	SC	A-2	0-2	0-10	50-90	30-50	30-50	15-25	25-35	5-15
	4-9	Very gravelly ashy sandy clay loam, very gravelly ashy loam	SC	A-2	0-6	0-12	70-90	35-60	35-55	20-30	30-40	10-15
	9-21	Very gravelly ashy sandy clay loam, very gravelly ashy clay loam	SC	A-2	0-6	0-12	70-90	35-60	30-50	15-40	35-45	15-20
	21-25	Bedrock			---	---	---	---	---	---	---	---
Hamtah-----	0-10	Very stony ashy sandy clay loam	GC, SC	A-2, A-6, A-7	5-15	5-20	65-85	50-85	30-85	20-60	35-45	15-20
	10-21	Gravelly ashy sandy clay loam	GC, SC	A-2, A-6, A-7	0	0-15	70-85	50-80	30-75	25-55	35-45	15-20
	21-33	Gravelly ashy clay loam, gravelly ashy clay	GC, SM	A-7	0	0-5	75-85	50-70	25-70	25-65	45-60	20-30
	33-41	Very gravelly ashy clay loam, gravelly ashy clay	GC, SC	A-2	0-5	0-10	60-70	30-50	15-45	15-45	45-55	20-30
	41-60	Gravelly ashy clay loam	GC, SC	A-2, A-6	0-5	0-5	70-80	50-75	25-65	25-60	40-45	15-20
Schoolmarm-----	0-3	Gravelly ashy coarse sandy loam	SC	A-2	0-6	0-12	80-90	50-70	30-60	10-30	25-35	10-15
	3-11	Very gravelly ashy sandy clay loam, very gravelly ashy clay loam	SC	A-2	0-15	0-15	70-85	50-60	40-50	20-35	45-55	25-30
	11-15	Bedrock			---	---	---	---	---	---	---	---
3894: Schoolmarm-----	0-3	Gravelly ashy sandy loam	SC	A-2	0-6	0-12	80-90	50-70	30-60	10-30	25-35	10-15
	3-11	Very gravelly ashy sandy clay loam, very gravelly ashy clay loam	SC	A-2	0-15	0-15	70-85	50-60	40-50	20-35	45-55	25-30
	11-15	Bedrock			---	---	---	---	---	---	---	---
Sevenmile-----	0-11	Ashy sandy loam	GM, SC, SM	A-4	0	0-5	65-100	55-85	45-75	35-50	15-25	NP-10
	11-35	Ashy loam, ashy very fine sandy loam, ashy fine sandy loam	CL, GM, SM	A-2, A-4	0	0-5	60-100	50-90	40-75	30-55	15-30	NP-10
	35-60	Stratified extremely gravelly ashy loamy coarse sand to ashy silt loam	SC-SM, GM, SM	A-4, A-2	0	0-5	60-100	50-90	40-70	25-50	15-25	NP-5

TABLE 8.--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	
Eganroc-----	0-9	Very stony loam	GC, GC-GM	A-2	15-30	5-20	25-55	20-50	15-35	10-30	25-35	5-15
	9-34	Extremely gravelly loam, very gravelly loam	GC-GM, GM, GC	A-2	0	10-25	20-60	15-55	15-50	10-35	25-35	5-10
	34-38	Bedrock			---	---	---	---	---	---	---	---
4040:												
Farepeak-----	0-3	Extremely cobbly ashy loam	SC, GC	A-2	0-11	0-30	50-80	30-50	30-50	20-30	25-35	10-15
	3-13	Very gravelly ashy sandy clay loam	SC	A-2	0-6	0-12	70-80	35-50	30-50	15-37	35-40	15-20
	13-17	Bedrock			---	---	---	---	---	---	---	---
Hamtah-----	0-10	Very stony ashy sandy clay loam	GC, SC	A-2, A-6, A-7	5-15	5-20	65-85	50-85	30-85	20-60	35-45	15-20
	10-21	Gravelly ashy sandy clay loam	GC, SC	A-2, A-6, A-7	0	0-15	70-85	50-80	30-75	25-55	35-45	15-20
	21-33	Gravelly ashy clay loam, gravelly ashy clay	GC, SM	A-7	0	0-5	75-85	50-70	25-70	25-65	45-60	20-30
	33-41	Very gravelly ashy clay loam, gravelly ashy clay	GC, SC	A-2	0-5	0-10	60-70	30-50	15-45	15-45	45-55	20-30
	41-60	Gravelly ashy clay loam	GC, SC	A-2, A-6	0-5	0-5	70-80	50-75	25-65	25-60	40-45	15-20
Starflyer-----	0-3	Very cobbly ashy coarse sandy loam	SC-SM	A-1	0-1	0-35	51-70	18-50	14-42	4-25	23-27	4-8
	3-18	Very cobbly ashy sandy clay loam, very cobbly ashy clay loam	SC	A-2	0	0-35	64-70	43-50	39-44	19-27	51-55	25-29
	18-22	Bedrock			---	---	---	---	---	---	---	---
5021:												
Atlanta-----	0-10	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	85-100	80-100	55-85	30-50	15-25	NP-10
	10-60	Fine sandy loam, gravelly fine sandy loam, loam	SC-SM, SM	A-2, A-4	0	0	85-100	80-100	55-85	30-50	15-25	NP-10
Escalante-----	0-3	Gravelly sandy loam	GM, SM	A-1, A-2	0	0	55-85	50-75	35-55	20-30	20-25	NP-5
	3-27	Gravelly sandy loam, sandy loam, fine sandy loam	SM	A-1, A-2, A-4	0	0-5	65-100	50-90	35-65	10-40	20-25	NP-5
	27-60	Very gravelly sandy loam, sandy loam	SM	A-1, A-2	0	0-7	73-100	44-85	25-65	10-20	15-25	NP-5

TABLE 9.--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 extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
1001:												
Eastmore-----	0-3	10-18	1.25-1.40	14.00-42.00	0.13-0.15	0.0-2.9	1.0-2.0	.24	.43	2	4	86
	3-17	12-18	1.30-1.50	4.00-14.00	0.08-0.11	0.0-2.9	0.5-2.0	.24	.32			
	17-49	---	---	0.42-1.40	---	---	---	---	---			
	49-65	5-10	1.35-1.55	14.00-42.00	0.08-0.11	0.0-2.9	0.0-0.5	.24	.43			
Armespan-----	0-3	10-18	1.40-1.50	14.00-42.00	0.06-0.15	0.0-2.9	0.6-1.0	.24	.37	3	5	56
	3-11	10-18	1.45-1.55	14.00-42.00	0.07-0.14	0.0-2.9	0.0-0.6	.20	.37			
	11-22	10-18	1.50-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
	22-60	5-10	1.55-1.65	72.00-141.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
1003:												
Eastmore-----	0-3	10-18	1.25-1.40	14.00-42.00	0.13-0.15	0.0-2.9	1.0-2.0	.24	.43	2	4	86
	3-17	12-18	1.30-1.50	4.00-14.00	0.08-0.11	0.0-2.9	0.5-2.0	.24	.32			
	17-49	---	---	0.42-1.40	---	---	---	---	---			
	49-65	5-10	1.35-1.55	14.00-42.00	0.08-0.11	0.0-2.9	0.0-0.5	.24	.43			
Eastmore-----	0-3	10-18	1.25-1.40	14.00-42.00	0.13-0.15	0.0-2.9	1.0-2.0	.24	.43	2	4	86
	3-17	12-18	1.30-1.50	4.00-14.00	0.08-0.11	0.0-2.9	0.5-2.0	.24	.32			
	17-49	---	---	0.42-1.40	---	---	---	---	---			
	49-65	5-10	1.35-1.55	14.00-42.00	0.08-0.11	0.0-2.9	0.0-0.5	.24	.43			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
1010:												
Armespan-----	0-3	10-18	1.40-1.50	14.00-42.00	0.06-0.15	0.0-2.9	0.6-1.0	.24	.37	3	5	56
	3-11	10-18	1.45-1.55	14.00-42.00	0.07-0.14	0.0-2.9	0.0-0.6	.20	.37			
	11-22	10-18	1.50-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
	22-60	5-10	1.55-1.65	72.00-141.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
1011:												
Armespan-----	0-3	10-18	1.40-1.50	14.00-42.00	0.06-0.15	0.0-2.9	0.6-1.0	.24	.37	3	5	56
	3-11	10-18	1.45-1.55	14.00-42.00	0.07-0.14	0.0-2.9	0.0-0.6	.20	.37			
	11-22	10-18	1.50-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
	22-60	5-10	1.55-1.65	72.00-141.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
1020:												
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.43	.55	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.12-0.17	0.0-2.9	0.5-1.0	.43	.55			
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
1021:												
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-1.0	.37	.37	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.32	.32			
Penoyer-----	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
1022:												
Cliffdown-----	0-4	10-15	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.37	5	5	56
	4-60	5-18	1.40-1.60	14.00-42.00	0.06-0.07	0.0-2.9	0.0-0.5	.20	.37			

TABLE 9.--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					
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.43	.55	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.12-0.17	0.0-2.9	0.5-1.0	.43	.55			
1029:												
Blackcan-----	0-4	10-19	1.45-1.61	14.00-42.00	0.08-0.11	0.0-2.9	0.4-0.6	.15	.37	1	3	86
	4-7	12-19	1.47-1.53	14.00-42.00	0.08-0.11	0.0-2.9	0.5-0.6	.15	.37			
	7-14	6-16	1.48-1.62	14.00-42.00	0.06-0.07	0.0-2.9	0.2-0.6	.10	.28			
	14-60	---	---	0.42-1.40	---	---	---	---	---			
Veet-----	0-4	5-18	1.47-1.62	14.00-28.00	0.05-0.11	0.0-2.9	0.3-1.0	.28	.32	3	4	86
	4-16	10-18	1.35-1.55	4.00-14.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.37			
	16-60	5-15	1.40-1.60	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
Armespan-----	0-1	10-18	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.8-2.0	.10	.32	3	5	56
	1-7	10-18	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.20	.37			
	7-18	12-18	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.24	.37			
	18-28	10-18	1.45-1.65	4.00-14.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.24			
	28-60	5-10	1.45-1.60	42.00-141.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.17			
1030:												
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
1031:												
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-1.0	.37	.37	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.32	.32			
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
1032:												
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.15	.32			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Mezzer-----	0-3	8-18	1.45-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.8-2.0	.10	.32	1	5	56
	3-10	8-18	1.50-1.70	14.00-42.00	0.10-0.13	0.0-2.9	0.8-1.0	.17	.32			
	10-46	8-18	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.28			
	46-60	3-12	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.17			
Armespan-----	0-1	10-18	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.8-2.0	.10	.32	3	5	56
	1-7	10-18	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.20	.37			
	7-18	12-18	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.24	.37			
	18-28	10-18	1.45-1.65	4.00-14.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.24			
	28-60	5-10	1.45-1.60	42.00-141.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.17			
1033:												
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.15	.32			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Cliffdown-----	0-4	10-15	1.40-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.37	5	5	56
	4-60	5-18	1.40-1.60	14.00-42.00	0.06-0.07	0.0-2.9	0.0-0.5	.20	.37			

TABLE 9.--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					
1034: Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.15	.32			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.15	.32			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
1035: Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
1036: Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Mezzer-----	0-3	8-18	1.45-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.8-2.0	.10	.32	1	5	56
	3-10	8-18	1.50-1.70	14.00-42.00	0.10-0.13	0.0-2.9	0.8-1.0	.17	.32			
	10-46	8-18	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.28			
	46-60	3-12	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.17			
1040: Chuckmill-----	0-4	10-25	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	1.0-2.0	.15	.32	1	3	86
	4-14	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	14-60	---	---	0.00-0.01	---	---	---	---	---			
Qwynn-----	0-3	8-18	1.35-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.20	5	5	56
	3-28	8-18	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.2	.20	.28			
	28-52	18-27	1.30-1.50	4.00-14.00	0.07-0.14	3.0-5.9	0.3-0.5	.10	.20			
	52-70	5-18	1.50-1.70	14.00-42.00	0.04-0.08	0.0-2.9	0.2-0.4	.10	.24			
1042: Chuckridge-----	0-2	10-18	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	0.8-2.0	.15	.32	1	4	86
	2-11	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	11-60	---	---	0.00-0.01	---	---	---	---	---			
Cath-----	0-3	5-18	1.35-1.50	42.00-141.00	0.10-0.13	0.0-2.9	1.0-2.0	.24	.28	5	3	86
	3-21	25-35	1.30-1.50	0.42-1.40	0.13-0.19	3.0-5.9	0.5-2.0	.32	.43			
	21-33	20-30	1.30-1.50	1.40-4.00	0.06-0.12	3.0-5.9	0.5-1.0	.05	.37			
	33-60	5-10	1.50-1.70	1.40-4.00	0.05-0.07	0.0-2.9	0.0-0.3	.05	.28			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1043: Chuckridge-----	0-2	10-18	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	0.8-2.0	.15	.32	1	7	38
	2-11	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	11-60	---	---	0.00-0.01	---	---	---	---	---			
Handpah-----	0-2	15-20	1.30-1.50	14.00-45.00	0.07-0.15	0.0-2.9	1.0-2.0	.24	.37	1	7	38
	2-8	25-35	1.20-1.40	1.40-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.20	.37			
	8-14	4-18	1.35-1.55	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.37			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
	18-60	---	---	0.01-0.42	---	---	---	---	---			

TABLE 9.--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					
1050: Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
Lien-----	0-3	10-24	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	1.0-2.0	.15	.49	1	6	48
	3-8	8-24	1.40-1.60	14.00-42.00	0.03-0.06	0.0-2.9	0.8-1.0	.15	.43			
	8-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	3-7	1.70-1.80	0.01-0.42	0.01-0.04	0.0-2.9	0.0-0.2	.02	.02			
1053: Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Mezzer-----	0-3	8-18	1.45-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.8-2.0	.10	.32	1	5	56
	3-10	8-18	1.50-1.70	14.00-42.00	0.10-0.13	0.0-2.9	0.8-1.0	.17	.32			
	10-46	8-18	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.28			
	46-60	3-12	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.17			
Ursine-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
1060: Gravier-----	0-4	8-18	1.45-1.60	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.8	.20	.37	4	5	56
	4-41	8-18	1.30-1.50	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.05	.28			
	41-65	0-5	1.40-1.60	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.43	.55	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.12-0.17	0.0-2.9	0.5-1.0	.43	.55			
1071: Koyen-----	0-3	0-6	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.5-0.7	.15	.17	4	1	220
	3-17	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
	17-44	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
	44-60	0-10	1.35-1.55	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.20			
1073: Koyen-----	0-4	0-10	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.5-0.7	.15	.17	4	3	86
	4-15	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
	15-60	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
Colval-----	0-5	16-27	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.3-0.5	.55	.55	5	4L	86
	5-11	20-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	11-23	27-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	23-60	25-35	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.0-0.2	.55	.55			
1074: Koyen-----	0-4	0-10	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.5-0.7	.15	.17	4	1	220
	4-15	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
	15-60	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Penoyer-----	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
1075: Koyen-----	0-4	5-15	1.30-1.45	14.00-42.00	0.10-0.12	0.0-2.9	0.5-0.7	.20	.32	4	4	86
	4-15	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
	15-60	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			

TABLE 9.--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					
Penoyer-----	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
1076:												
Koyen-----	0-4	5-15	1.30-1.45	14.00-42.00	0.10-0.12	0.0-2.9	0.5-0.7	.20	.32	4	4	86
	4-15	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
	15-60	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.43	.55	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.12-0.17	0.0-2.9	0.5-1.0	.43	.55			
1080:												
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
1081:												
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Sycomat-----												
	0-5	5-18	1.45-1.65	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.32	.37	4	4	86
	5-26	5-18	1.40-1.60	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.28	.43			
	26-45	5-18	1.45-1.65	4.00-14.00	0.05-0.07	0.0-2.9	0.0-0.5	.24	.37			
	45-60	2-5	1.50-1.70	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.20			
1084:												
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Penoyer-----												
	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
1085:												
Colval-----	0-5	16-27	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.3-0.5	.55	.55	5	4L	86
	5-11	20-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	11-23	27-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	23-60	25-35	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.0-0.2	.55	.55			
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Colval-----	0-5	16-27	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.3-0.5	.55	.55	5	4L	86
	5-11	20-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	11-23	27-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	23-60	25-35	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.0-0.2	.55	.55			
1086:												
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Slaw-----	0-13	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	13-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Colval-----	0-5	16-27	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.3-0.5	.55	.55	5	4L	86
	5-11	20-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	11-23	27-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	23-60	25-35	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.0-0.2	.55	.55			
1087:												
Glotrain-----	0-4	7-15	1.50-1.60	4.00-14.00	0.08-0.12	0.0-2.9	0.8-1.5	.10	.20	5	5	56
	4-26	10-18	1.40-1.50	4.00-14.00	0.07-0.11	0.0-2.9	0.2-0.4	.10	.24			
	26-60	4-10	1.50-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.1-0.3	.02	.15			
Koyen-----	0-4	0-10	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.5-0.7	.15	.17	4	3	86
	4-15	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.32			
	15-60	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
1088:												
Radol-----	0-2	10-25	1.04-1.29	4.00-14.00	0.06-0.12	3.0-5.9	1.3-3.0	.20	.43	1	4L	86
	2-15	18-27	1.04-1.35	4.00-14.00	0.06-0.11	3.0-5.9	1.0-3.0	.10	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
Eaglepass-----	0-2	4-18	1.20-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
Monarch-----	0-8	12-18	1.30-1.45	14.00-42.00	0.04-0.07	0.0-2.9	1.0-3.0	.05	.32	1	8	0
	8-15	12-18	1.25-1.45	4.00-14.00	0.05-0.12	0.0-2.9	0.6-2.0	.15	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
1090: Kyler-----	0-3	7-18	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.15	.32	1	5	56
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Eaglepass-----	0-2	4-18	1.20-1.40	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32	1	6	48
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---			
1091: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	8	0
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Eaglepass-----	0-2	8-18	1.20-1.40	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---			
1093: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	8	0
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Logring-----	0-3	8-15	1.35-1.50	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.17	.55	1	7	38
	3-10	10-18	1.30-1.45	4.00-14.00	0.08-0.10	0.0-2.9	0.5-1.0	.15	.43			
	10-14	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---			
1095: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	8	0
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---			
Amtoft-----	0-3	12-16	1.60-1.70	1.00-10.00	0.07-0.11	0.0-2.9	0.6-0.7	.10	.37	1	4L	86
	3-11	14-27	1.70-1.80	1.00-10.00	0.06-0.11	0.0-2.9	0.5-0.6	.05	.37			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
1096: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	5	56
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
1100: Linoyer-----	0-11	10-18	1.30-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-1.0	.43	.43	5	3	86
	11-60	10-18	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.5-1.0	.49	.49			
Heist-----	0-8	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	8-20	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	20-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			

TABLE 9.--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					
1103: Patter-----	0-2	10-18	1.05-1.25	14.00-42.00	0.08-0.25	0.0-2.9	1.5-3.5	.28	.43	5	5	56
	2-14	10-18	1.10-1.25	14.00-42.00	0.11-0.25	0.0-2.9	1.0-2.0	.43	.49			
	14-47	10-18	1.10-1.35	14.00-42.00	0.16-0.25	0.0-2.9	0.7-1.5	.43	.49			
	47-60	10-18	1.10-1.40	14.00-42.00	0.15-0.25	0.0-2.9	0.5-1.0	.43	.49			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1104: Colval-----	0-5	16-27	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.3-0.5	.55	.55	5	4L	86
	5-11	20-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	11-23	27-35	1.45-1.55	0.42-1.40	0.14-0.18	3.0-5.9	0.1-0.3	.55	.55			
	23-60	25-35	1.50-1.60	1.40-4.00	0.14-0.18	3.0-5.9	0.0-0.2	.55	.55			
Penoyer-----	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
1106: Patter-----	0-2	10-18	1.05-1.25	14.00-42.00	0.08-0.25	0.0-2.9	1.5-3.5	.28	.43	5	5	56
	2-14	10-18	1.10-1.25	14.00-42.00	0.11-0.25	0.0-2.9	1.0-2.0	.43	.49			
	14-47	10-18	1.10-1.35	14.00-42.00	0.16-0.25	0.0-2.9	0.7-1.5	.43	.49			
	47-60	10-18	1.10-1.40	14.00-42.00	0.15-0.25	0.0-2.9	0.5-1.0	.43	.49			
Linco-----	0-8	7-18	1.35-1.55	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.24	.32	5	4	86
	8-25	7-18	1.55-1.75	4.00-14.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.37			
	25-60	7-18	1.50-1.65	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.37			
1110: Nuhelen-----	0-4	10-30	1.25-1.40	4.00-14.00	0.09-0.13	0.0-2.9	2.5-5.0	.10	.15	1	5	56
	4-6	14-25	1.30-1.45	1.40-4.00	0.05-0.11	3.0-5.9	1.5-2.5	.10	.20			
	6-13	18-30	1.30-1.45	1.40-4.00	0.06-0.11	3.0-5.9	1.0-2.0	.10	.20			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1111: Nuhelen-----	0-4	10-20	1.30-1.40	4.00-14.00	0.06-0.11	0.0-2.9	2.5-5.0	.10	.32	1	5	56
	4-6	14-25	1.30-1.45	1.40-4.00	0.05-0.11	3.0-5.9	1.5-2.5	.10	.20			
	6-13	18-30	1.30-1.45	1.40-4.00	0.06-0.11	3.0-5.9	1.0-2.0	.10	.20			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Farepeak-----	0-3	18-30	1.20-1.50	4.00-14.00	0.09-0.15	0.0-2.9	3.0-8.0	.10	.32	1	5	56
	3-13	27-35	1.20-1.50	4.00-14.00	0.11-0.15	0.0-2.9	2.0-4.0	.05	.15			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
1113: Farepeak-----	0-3	18-30	1.20-1.50	4.00-14.00	0.09-0.15	0.0-2.9	3.0-8.0	.10	.32	1	5	56
	3-13	27-35	1.20-1.50	4.00-14.00	0.11-0.15	0.0-2.9	2.0-4.0	.05	.15			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Slockey-----	0-4	14-25	1.30-1.50	14.00-42.00	0.09-0.15	0.0-2.9	2.0-4.0	.10	.20	2	6	48
	4-9	20-30	1.30-1.50	4.00-14.00	0.11-0.15	0.0-2.9	1.5-2.5	.10	.20			
	9-21	27-35	1.30-1.50	4.00-14.00	0.11-0.15	0.0-2.9	0.5-1.5	.10	.20			
	21-25	---	---	0.00-0.01	---	---	---	---	---			
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	3	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
1114: Slockey-----	0-4	14-25	1.30-1.50	14.00-42.00	0.09-0.15	0.0-2.9	2.0-4.0	.10	.20	2	6	48
	4-9	20-30	1.30-1.50	4.00-14.00	0.11-0.15	0.0-2.9	1.5-2.5	.10	.20			
	9-21	27-35	1.30-1.50	4.00-14.00	0.11-0.15	0.0-2.9	0.5-1.5	.10	.20			
	21-25	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	3	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---		---	---
1115:												
Nuhelen-----	0-4	10-30	1.25-1.40	4.00-14.00	0.09-0.13	0.0-2.9	2.5-5.0	.05	.15	1	7	38
	4-6	14-25	1.30-1.45	1.40-4.00	0.05-0.11	3.0-5.9	1.5-2.5	.10	.20			
	6-13	18-30	1.30-1.45	1.40-4.00	0.06-0.11	3.0-5.9	1.0-2.0	.10	.20			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---		---	---
Newvil-----	0-3	10-20	1.35-1.50	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.28	.43	1	4	86
	3-12	18-30	1.30-1.50	1.40-4.00	0.11-0.14	3.0-5.9	1.0-2.0	.24	.43			
	12-17	20-27	1.45-1.60	4.00-14.00	0.10-0.13	0.0-2.9	0.0-1.0	.28	.43			
	17-48	---	---	0.00-0.01	---	---	---	---	---			
	48-60	2-6	1.50-1.70	141.00- 705.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.15			
1120:												
Watoopah-----	0-4	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.20	.28	3	3	86
	4-14	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	14-40	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	40-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Chuckmill-----	0-4	10-25	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	1.0-2.0	.15	.32	1	4L	86
	4-14	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	14-60	---	---	0.00-0.01	---	---	---	---	---			
1130:												
Handpah-----	0-2	15-20	1.30-1.50	14.00-45.00	0.07-0.15	0.0-2.9	1.0-2.0	.24	.37	1	7	38
	2-8	25-35	1.20-1.40	1.40-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.20	.37			
	8-14	4-18	1.35-1.55	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.37			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
	18-60	---	---	0.01-0.42	---	---	---	---	---			
Chuckridge-----	0-2	10-18	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	0.8-2.0	.15	.32	1	4	86
	2-11	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	11-60	---	---	0.00-0.01	---	---	---	---	---			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1131:												
Handpah-----	0-2	8-15	1.40-1.60	4.00-14.00	0.09-0.11	0.0-2.9	0.8-2.0	.10	.32	1	4	86
	2-8	25-35	1.20-1.40	0.42-1.40	0.15-0.17	3.0-5.9	0.0-0.5	.15	.28			
	8-14	4-10	1.35-1.55	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.05	.24			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
	18-60	---	---	0.01-0.42	---	---	---	---	---			
Watoopah-----	0-4	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.05	.24	3	3	86
	4-14	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	14-40	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	40-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Littleallie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
1132:												
Handpah-----	0-2	15-20	1.30-1.50	14.00-45.00	0.07-0.15	0.0-2.9	1.0-2.0	.24	.37	1	5	56
	2-8	25-35	1.20-1.40	1.40-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.20	.37			
	8-14	4-18	1.35-1.55	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.37			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
	18-60	---	---	0.01-0.42	---	---	---	---	---			

TABLE 9.--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					
Veet-----	0-4	8-15	1.35-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-2.0	.17	.32	3	4	86
	4-16	10-18	1.35-1.55	4.00-14.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.37			
	16-60	5-15	1.40-1.60	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
1133: Lojet-----	0-4	10-18	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	0.8-1.5	.17	.24	2	3	86
	4-11	27-35	1.35-1.45	4.00-14.00	0.12-0.15	3.0-5.9	0.3-0.5	.20	.28			
	11-28	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	28-35	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	35-41	---	---	0.00-0.01	---	---	---	---	---			
	41-60	4-14	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.1-0.3	.10	.24			
Qwynn-----	0-7	8-18	1.35-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.20	5	5	56
	7-28	8-18	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.2	.20	.28			
	28-52	18-27	1.30-1.50	4.00-14.00	0.07-0.14	3.0-5.9	0.3-0.5	.10	.20			
	52-70	5-18	1.50-1.70	14.00-42.00	0.04-0.08	0.0-2.9	0.2-0.4	.10	.24			
Littleallie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
1134: Lojet-----	0-4	10-18	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	0.8-1.5	.17	.24	2	3	86
	4-11	27-35	1.35-1.45	4.00-14.00	0.12-0.15	3.0-5.9	0.3-0.5	.20	.28			
	11-28	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	28-35	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	35-41	---	---	0.00-0.01	---	---	---	---	---			
	41-60	4-14	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.1-0.3	.10	.24			
Chuckmill-----	0-4	10-25	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	1.0-2.0	.15	.32	1	4L	86
	4-14	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	14-60	---	---	0.00-0.01	---	---	---	---	---			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1138: Littleallie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
Lien-----	0-3	10-24	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	1.0-2.0	.15	.49	1	6	48
	3-8	8-24	1.40-1.60	14.00-42.00	0.03-0.06	0.0-2.9	0.8-1.0	.15	.43			
	8-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	3-7	1.70-1.80	0.01-0.42	0.01-0.04	0.0-2.9	0.0-0.2	.02	.02			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1140: Cowgil-----	0-4	10-20	1.30-1.50	14.00-42.00	0.05-0.08	0.0-2.9	1.0-2.0	.10	.37	3	5	56
	4-21	20-35	1.35-1.55	1.40-4.00	0.06-0.10	0.0-2.9	0.5-1.0	.05	.37			
	21-61	2-10	1.50-1.65	141.00-705.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.20			
Yody-----	0-4	5-10	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	0.7-2.0	.20	.32	2	4	86
	4-30	20-35	1.30-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-1.0	.20	.32			
	30-36	5-10	1.55-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.49			
	36-60	---	---	0.01-0.42	---	---	---	---	---			
Fax-----	0-3	8-18	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	2.0-4.0	.10	.20	2	6	48
	3-12	20-35	1.35-1.55	1.40-4.00	0.06-0.10	0.0-2.9	1.0-2.0	.15	.37			
	12-22	14-28	1.40-1.60	1.40-4.00	0.06-0.09	0.0-2.9	0.5-1.0	.15	.28			
	22-48	---	---	0.01-0.42	---	---	---	---	---			

TABLE 9.--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					
1150: Zoda-----	0-5	10-18	1.40-1.50	14.00-42.00	0.09-0.14	0.0-2.9	1.0-2.0	.20	.32	2	3	86
	5-15	20-27	1.25-1.45	4.00-14.00	0.11-0.17	3.0-5.9	0.2-1.0	.10	.20			
	15-24	20-27	1.25-1.45	4.00-14.00	0.11-0.17	3.0-5.9	0.2-1.0	.17	.24			
	24-32	---	---	0.42-1.40	---	---	---	---	---			
	32-60	---	---	0.01-0.42	---	---	---	---	---			
Cath-----	0-3	5-18	1.35-1.50	42.00-141.00	0.10-0.13	0.0-2.9	1.0-2.0	.24	.28	5	3	86
	3-21	25-35	1.30-1.50	0.42-1.40	0.13-0.19	3.0-5.9	0.5-2.0	.32	.43			
	21-33	20-30	1.30-1.50	1.40-4.00	0.06-0.12	3.0-5.9	0.5-1.0	.05	.37			
	33-60	5-10	1.50-1.70	1.40-4.00	0.05-0.07	0.0-2.9	0.0-0.3	.05	.28			
1151: Watoopah-----	0-4	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.20	.28	3	3	86
	4-14	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	14-40	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	40-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Zoda-----	0-5	10-18	1.40-1.50	14.00-42.00	0.09-0.14	0.0-2.9	1.0-2.0	.20	.32	2	3	86
	5-15	20-27	1.25-1.45	4.00-14.00	0.11-0.17	3.0-5.9	0.2-1.0	.10	.20			
	15-24	20-27	1.25-1.45	4.00-14.00	0.11-0.17	3.0-5.9	0.2-1.0	.17	.24			
	24-32	---	---	0.42-1.40	---	---	---	---	---			
	32-60	---	---	0.01-0.42	---	---	---	---	---			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1154: Qwynn-----	0-3	8-18	1.35-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.20	5	5	56
	3-28	8-18	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.2	.20	.28			
	28-52	18-27	1.30-1.50	4.00-14.00	0.07-0.14	3.0-5.9	0.3-0.5	.10	.20			
	52-70	5-18	1.50-1.70	14.00-42.00	0.04-0.08	0.0-2.9	0.2-0.4	.10	.24			
Ragnel-----	0-3	3-8	1.45-1.65	42.00-141.00	0.05-0.07	0.0-2.9	1.0-2.0	.05	.20	5	2	134
	3-11	8-18	1.50-1.70	14.00-42.00	0.08-0.11	0.0-2.9	0.6-1.0	.05	.20			
	11-60	0-3	1.60-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
1160: Silent-----	0-4	5-15	1.40-1.55	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.20	.37	1	4	86
	4-12	25-35	1.30-1.50	1.40-4.00	0.15-0.19	3.0-5.9	0.0-0.5	.37	.43			
	12-17	25-35	1.30-1.50	1.40-4.00	0.12-0.15	3.0-5.9	0.0-0.5	.20	.37			
	17-27	---	---	0.00-0.01	---	---	---	---	---			
Koyen-----	0-4	5-15	1.30-1.45	14.00-42.00	0.10-0.12	0.0-2.9	0.5-0.7	.20	.32	4	4	86
	4-45	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
	45-60	0-10	1.50-1.65	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
1170: Haunchee-----	0-7	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.15	.43	1	7	38
	7-19	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.55			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Hardol-----	0-8	18-27	1.10-1.30	4.00-14.00	0.07-0.13	0.0-2.9	2.0-3.0	.28	.64	5	6	48
	8-33	20-27	1.10-1.30	4.00-14.00	0.03-0.08	0.0-2.9	1.0-3.0	.10	.64			
	33-60	20-27	1.10-1.30	4.00-14.00	0.03-0.07	0.0-2.9	1.0-2.0	.10	.43			
Xine-----	0-10	10-18	1.15-1.30	14.00-42.00	0.08-0.10	0.0-2.9	2.0-4.0	.10	.32	3	7	38
	10-35	10-18	1.15-1.35	14.00-42.00	0.08-0.11	0.0-2.9	1.0-2.0	.10	.43			
	35-45	---	---	0.01-0.42	---	---	---	---	---			
1171: Haunchee-----	0-7	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.15	.43	1	7	38
	7-19	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.55			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Hardzem-----	0-1	10-20	1.40-1.60	4.00-14.00	0.10-0.15	0.0-2.9	1.0-2.0	.20	.37	3	6	48
	1-21	20-30	1.40-1.60	0.42-1.40	0.05-0.11	0.0-2.9	1.0-2.0	.05	.43			
	21-52	---	---	0.01-0.42	---	---	---	---	---			
	52-56	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 9.--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					
1172:												
Haunchee-----	0-7	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.15	.43	1	7	38
	7-19	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.55			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Wardbay-----	0-18	18-27	1.05-1.20	4.00-14.00	0.06-0.12	0.0-2.9	2.0-4.0	.10	.37	3	6	48
	18-45	18-27	1.10-1.30	4.00-14.00	0.03-0.08	0.0-2.9	1.0-2.0	.05	.55			
	45-55	---	---	0.00-0.01	---	---	---	---	---			
Hardzem-----	0-1	10-20	1.40-1.60	4.00-14.00	0.10-0.15	0.0-2.9	1.0-2.0	.20	.37	3	6	48
	1-21	20-30	1.40-1.60	0.42-1.40	0.05-0.11	0.0-2.9	1.0-2.0	.05	.43			
	21-52	---	---	0.01-0.42	---	---	---	---	---			
	52-56	---	---	0.00-0.01	---	---	---	---	---			
1180:												
Eoj-----	0-6	20-27	1.30-1.50	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.10	.37	3	8	0
	6-60	40-60	1.25-1.45	0.01-0.42	0.10-0.12	6.0-8.9	1.0-2.0	.15	.28			
Eoj-----	0-6	20-27	1.30-1.50	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.10	.37	3	8	0
	6-60	40-60	1.25-1.45	0.01-0.42	0.10-0.12	6.0-8.9	1.0-2.0	.15	.28			
McIvey-----	0-13	20-27	1.05-1.20	4.00-14.00	0.12-0.15	3.0-5.9	2.0-5.0	.15	.43	5	7	38
	13-18	20-27	1.15-1.35	4.00-14.00	0.10-0.12	3.0-5.9	1.0-2.0	.15	.37			
	18-23	30-40	1.25-1.45	1.40-4.00	0.12-0.17	3.0-5.9	0.5-1.0	.10	.43			
	23-62	40-50	1.25-1.40	0.01-0.42	0.07-0.10	3.0-5.9	0.5-1.0	.05	.37			
	62-80	30-40	1.30-1.50	1.40-4.00	0.08-0.12	3.0-5.9	0.0-0.5	.05	.43			
1190:												
Pookaloo-----	0-3	10-18	1.20-1.35	4.00-14.00	0.06-0.09	0.0-2.9	1.0-2.0	.20	.43	1	6	48
	3-14	10-18	1.35-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.20	.55			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
Cavehill-----	0-3	10-25	1.05-1.20	14.00-42.00	0.08-0.14	0.0-2.9	4.0-6.0	.15	.28	2	8	0
	3-10	10-25	1.05-1.20	14.00-42.00	0.10-0.13	0.0-2.9	2.0-4.0	.17	.37			
	10-27	18-27	1.10-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.15	.43			
	27-31	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1200:												
Urmafot-----	0-10	18-27	1.25-1.45	4.00-14.00	0.06-0.12	0.0-2.9	2.0-4.0	.10	.32	1	7	38
	10-20	18-27	1.35-1.55	4.00-14.00	0.10-0.15	3.0-5.9	1.0-2.0	.20	.37			
	20-39	---	---	0.00-0.01	---	---	---	---	---			
	39-60	5-15	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.8	.02	.17			
Bobs-----	0-3	10-20	1.15-1.35	4.00-14.00	0.08-0.11	0.0-2.9	1.0-3.0	.15	.49	1	6	48
	3-14	10-20	1.25-1.45	4.00-14.00	0.14-0.17	0.0-2.9	1.0-2.0	.37	.49			
	14-20	---	---	0.00-0.01	---	---	---	---	---			
Palinor-----	0-10	10-18	1.30-1.50	4.00-14.00	0.10-0.15	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	10-18	10-18	1.40-1.60	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.49			
	18-30	---	---	0.00-0.01	---	---	---	---	---			
	30-60	2-8	1.50-1.70	42.00-141.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.24			
1210:												
Palinor-----	0-10	10-18	1.30-1.50	4.00-14.00	0.05-0.11	0.0-2.9	1.0-2.0	.15	.55	1	6	48
	10-18	10-18	1.40-1.60	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.49			
	18-30	---	---	0.00-0.01	---	---	---	---	---			
	30-60	2-8	1.50-1.70	42.00-141.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.24			
1211:												
Palinor-----	0-3	10-18	1.30-1.50	4.00-14.00	0.10-0.15	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	3-16	10-18	1.40-1.60	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.49			
	16-35	---	---	0.00-0.01	---	---	---	---	---			
	35-60	2-8	1.50-1.70	42.00-141.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.24			
Urmafot-----	0-10	18-27	1.25-1.45	4.00-14.00	0.06-0.12	0.0-2.9	2.0-4.0	.10	.32	1	7	38
	10-20	18-27	1.35-1.55	4.00-14.00	0.10-0.15	3.0-5.9	1.0-2.0	.20	.37			
	20-39	---	---	0.00-0.01	---	---	---	---	---			
	39-60	5-15	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.8	.02	.17			

TABLE 9.--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					
Urmafot-----	0-10	18-27	1.25-1.45	4.00-14.00	0.10-0.15	3.0-5.9	2.0-4.0	.20	.37	1	6	48
	10-20	18-27	1.35-1.55	4.00-14.00	0.10-0.15	3.0-5.9	1.0-2.0	.20	.37			
	20-39	---	---	0.00-0.01	---	---	---	---	---			
	39-60	5-15	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.8	.02	.17			
1212: Palinor-----	0-10	10-18	1.30-1.50	4.00-14.00	0.10-0.15	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	10-18	10-18	1.40-1.60	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.49			
	18-30	---	---	0.00-0.01	---	---	---	---	---			
	30-60	2-8	1.50-1.70	42.00-141.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.24			
Yody-----	0-4	5-10	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	0.7-2.0	.20	.32	2	4	86
	4-30	20-35	1.30-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-1.0	.20	.32			
	30-36	5-10	1.55-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.49			
	36-60	---	---	0.01-0.42	---	---	---	---	---			
Broland-----	0-3	10-25	1.15-1.35	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.15	.55	1	7	38
	3-9	27-40	1.35-1.55	1.40-4.00	0.05-0.07	0.0-2.9	0.5-1.0	.15	.32			
	9-16	20-35	1.40-1.60	4.00-14.00	0.05-0.07	0.0-2.9	0.5-1.0	.05	.37			
	16-19	10-20	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	19-40	---	---	0.01-0.42	---	---	---	---	---			
40-60	1-5	1.50-1.65	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15				
1215: Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Jarab-----	0-4	7-20	1.35-1.55	4.00-14.00	0.11-0.13	0.0-2.9	2.0-4.0	.20	.37	1	5	56
	4-13	20-35	1.35-1.55	1.40-4.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.32			
	13-60	---	---	0.01-0.42	---	---	---	---	---			
1220: Lien-----	0-3	8-15	1.40-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.32	1	6	48
	3-8	8-18	1.50-1.70	14.00-42.00	0.03-0.06	0.0-2.9	0.5-1.0	.15	.37			
	8-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	3-7	1.70-1.80	0.01-0.42	0.01-0.04	0.0-2.9	0.0-0.2	.02	.02			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
1230: Yotes-----	0-12	6-18	1.30-1.50	14.00-42.00	0.08-0.13	0.0-2.9	1.0-2.0	.15	.28	5	3	86
	12-21	8-18	1.40-1.60	14.00-42.00	0.09-0.14	0.0-2.9	0.5-1.0	.20	.37			
	21-60	8-18	1.55-1.70	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.37			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
1231: Newvil-----	0-3	10-20	1.35-1.50	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.28	.43	1	4	86
	3-12	18-30	1.30-1.50	1.40-4.00	0.11-0.14	3.0-5.9	1.0-2.0	.24	.43			
	12-17	20-27	1.45-1.60	4.00-14.00	0.10-0.13	0.0-2.9	0.0-1.0	.28	.43			
	17-48	---	---	0.00-0.01	---	---	---	---	---			
	48-60	2-6	1.50-1.70	141.00-705.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.15			
Nevu-----	0-5	10-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	1.0-3.0	.17	.32	2	3	86
	5-27	25-35	1.35-1.50	1.40-4.00	0.14-0.19	3.0-5.9	0.0-0.5	.15	.43			
	27-36	---	---	0.00-0.01	---	---	---	---	---			
	36-60	5-15	1.40-1.55	14.00-42.00	0.00-0.08	0.0-2.9	0.0-0.5	.15	.32			
Ponyspring-----	0-6	5-12	1.45-1.55	10.00-100.00	0.07-0.10	0.0-2.9	1.0-3.0	.32	.64	5	2	134
	6-30	18-27	1.55-1.65	1.00-10.00	0.10-0.15	0.0-5.9	0.5-2.0	.10	.24			
	30-60	18-35	1.65-1.75	1.00-10.00	0.12-0.16	0.0-5.9	0.1-0.9	.15	.20			

TABLE 9.--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					
1232:												
Nevu-----	0-5	10-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	1.0-3.0	.17	.32	2	3	86
	5-27	25-35	1.35-1.50	1.40-4.00	0.14-0.19	3.0-5.9	0.0-0.5	.15	.43			
	27-36	---	---	0.00-0.01	---	---	---	---	---			
	36-60	5-15	1.40-1.55	14.00-42.00	0.00-0.08	0.0-2.9	0.0-0.5	.15	.32			
Ponyspring-----	0-6	5-12	1.45-1.55	10.00-100.00	0.07-0.10	0.0-2.9	1.0-3.0	.32	.64	5	2	134
	6-30	18-27	1.55-1.65	1.00-10.00	0.10-0.15	0.0-5.9	0.5-2.0	.10	.24			
	30-60	18-35	1.65-1.75	1.00-10.00	0.12-0.16	0.0-5.9	0.1-0.9	.15	.20			
Okayview-----	0-3	10-18	1.20-1.40	14.00-45.00	0.17-0.21	0.0-2.9	1.0-3.0	.15	.24	1	3	86
	3-11	18-27	1.20-1.40	4.00-12.00	0.18-0.22	0.0-2.9	1.0-3.0	.17	.24			
	11-21	---	---	0.01-0.42	---	---	---	---	---			
1240:												
Sycomat-----	0-5	5-15	1.45-1.65	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.32	.37	4	4	86
	5-26	5-18	1.40-1.60	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.28	.43			
	26-45	5-18	1.45-1.65	4.00-14.00	0.05-0.07	0.0-2.9	0.0-0.5	.24	.37			
	45-60	2-5	1.50-1.70	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.20			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
Gravier-----	0-4	8-18	1.45-1.60	4.00-14.00	0.13-0.15	0.0-2.9	0.0-0.8	.20	.37	4	5	56
	4-41	8-18	1.30-1.50	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.05	.28			
	41-65	0-5	1.40-1.60	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
1270:												
Heusser-----	0-12	10-20	1.20-1.40	14.00-42.00	0.09-0.12	0.0-2.9	2.0-4.0	.10	.43	4	8	0
	12-24	15-22	1.40-1.60	1.40-4.00	0.08-0.12	3.0-5.9	0.5-1.0	.10	.43			
	24-60	40-55	1.35-1.55	0.42-1.40	0.08-0.11	3.0-5.9	0.0-0.5	.05	.28			
Wambolt-----	0-10	10-20	1.30-1.50	14.00-42.00	0.04-0.06	0.0-2.9	2.0-4.0	.05	.32	5	8	0
	10-36	27-35	1.35-1.55	1.40-4.00	0.04-0.08	0.0-2.9	0.5-1.0	.05	.32			
	36-60	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
1280:												
Badena-----	0-5	12-20	1.30-1.50	14.00-42.00	0.05-0.06	0.0-2.9	1.0-2.0	.10	.32	3	5	56
	5-10	18-27	1.25-1.40	4.00-14.00	0.06-0.07	0.0-2.9	1.0-2.0	.10	.37			
	10-25	20-35	1.30-1.50	1.40-4.00	0.04-0.07	0.0-2.9	0.5-1.0	.05	.43			
	25-60	0-12	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.15			
1291:												
Zimbob-----	0-2	10-18	1.15-1.35	4.00-14.00	0.05-0.07	0.0-2.9	1.0-2.0	.10	.32	1	8	0
	2-11	10-18	1.20-1.40	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.17	.43			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Pookaloo-----	0-3	10-18	1.20-1.35	4.00-14.00	0.06-0.09	0.0-2.9	1.0-2.0	.20	.43	1	6	48
	3-14	10-18	1.35-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.5	.20	.55			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
Cavehill-----	0-3	10-25	1.05-1.20	14.00-42.00	0.08-0.14	0.0-2.9	4.0-6.0	.15	.28	2	8	0
	3-10	10-25	1.05-1.20	14.00-42.00	0.10-0.13	0.0-2.9	2.0-4.0	.17	.37			
	10-27	18-27	1.10-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.15	.43			
	27-31	---	---	0.00-0.01	---	---	---	---	---			
1300:												
Picche-----	0-2	5-15	1.35-1.55	4.00-14.00	0.11-0.13	0.0-2.9	1.0-3.0	.15	.43	1	8	0
	2-13	35-50	1.40-1.55	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.15	.37			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Birchcreek-----	0-3	14-19	1.20-1.30	4.00-14.00	0.09-0.12	0.0-2.9	1.0-3.0	.10	.37	2	8	0
	3-13	28-40	1.35-1.45	1.40-4.00	0.09-0.12	3.0-5.9	1.0-2.0	.10	.37			
	13-21	40-55	1.25-1.40	0.42-1.40	0.07-0.11	6.0-8.9	0.5-1.0	.05	.24			
	21-27	---	---	0.00-0.01	---	---	---	---	---			
Cropper-----	0-4	16-20	1.25-1.45	4.00-14.00	0.09-0.11	0.0-2.9	1.0-4.0	.15	.55	1	8	0
	4-15	27-35	1.35-1.55	1.40-4.00	0.05-0.08	3.0-5.9	1.0-2.0	.05	.32			
	15-20	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
1307: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	8	0
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Amtoft-----	0-3	15-25	1.35-1.55	4.00-14.00	0.07-0.11	0.0-2.9	1.0-2.0	.15	.37	1	6	48
	3-11	12-27	1.40-1.60	4.00-14.00	0.06-0.11	0.0-2.9	0.5-1.0	.10	.37			
	11-15	---	---	0.00-0.42	---	---	---	---	---			
Eaglepass-----	0-2	8-18	1.20-1.40	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
1310: Duffer-----	0-11	15-20	1.35-1.50	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.37	.37	5	4L	86
	11-48	20-35	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	48-66	15-30	1.45-1.65	1.40-4.00	0.15-0.21	3.0-5.9	0.0-0.5	.49	.49			
Duffer-----	0-11	15-20	1.35-1.50	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.37	.37	5	4L	86
	11-48	20-35	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	48-66	15-30	1.45-1.65	1.40-4.00	0.15-0.21	3.0-5.9	0.0-0.5	.49	.49			
Kolda-----	0-6	10-25	1.20-1.40	4.00-14.00	0.19-0.21	3.0-5.9	3.0-4.0	.55	.55	5	4L	86
	6-22	20-27	1.30-1.50	4.00-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.55	.55			
	22-60	40-50	1.40-1.60	0.42-1.40	0.14-0.17	6.0-8.9	0.0-1.0	.24	.24			
1320: Broland-----	0-3	10-25	1.15-1.35	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.15	.55	1	7	38
	3-9	27-40	1.35-1.55	1.40-4.00	0.05-0.07	0.0-2.9	0.5-1.0	.15	.32			
	9-16	20-35	1.40-1.60	4.00-14.00	0.05-0.07	0.0-2.9	0.5-1.0	.05	.37			
	16-19	10-20	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	19-40	---	---	0.01-0.42	---	---	---	---	---			
	40-60	1-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
Yody-----	0-4	5-10	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	0.7-2.0	.20	.32	2	4	86
	4-30	20-35	1.30-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-1.0	.20	.32			
	30-36	5-10	1.55-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.49			
	36-60	---	---	0.01-0.42	---	---	---	---	---			
1330: Amelar-----	0-6	18-27	1.05-1.25	4.00-14.00	0.13-0.17	3.0-5.9	2.0-4.0	.24	.49	5	6	48
	6-15	27-35	1.15-1.30	1.40-4.00	0.08-0.13	0.0-2.9	1.0-2.0	.15	.55			
	15-60	18-27	1.20-1.40	4.00-14.00	0.08-0.14	0.0-2.9	0.5-1.0	.15	.55			
Eoj-----	0-6	20-27	1.30-1.50	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.10	.37	3	8	0
	6-60	40-60	1.25-1.45	0.01-0.42	0.10-0.12	6.0-8.9	1.0-2.0	.15	.28			
Hardol-----	0-8	18-27	1.10-1.30	4.00-14.00	0.07-0.13	0.0-2.9	2.0-3.0	.28	.64	5	6	48
	8-33	20-27	1.10-1.30	4.00-14.00	0.03-0.08	0.0-2.9	1.0-3.0	.10	.64			
	33-60	20-27	1.10-1.30	4.00-14.00	0.03-0.07	0.0-2.9	1.0-2.0	.10	.43			
1340: Heist-----	0-8	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	8-20	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	20-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
Heist-----	0-8	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	8-20	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	20-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
1350: Heist-----	0-8	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	8-20	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	20-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
Chuffa-----	0-3	15-18	1.25-1.45	4.00-14.00	0.19-0.21	0.0-2.9	1.0-2.0	.55	.55	5	4L	86
	3-13	18-30	1.30-1.55	4.00-14.00	0.16-0.21	3.0-5.9	0.5-1.0	.55	.55			
	13-60	18-30	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			

TABLE 9.--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					
1359:												
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
Gardenvalley----	0-3	10-18	1.45-1.55	10.00-100.00	0.11-0.16	0.0-2.9	0.3-0.7	.15	.28	5	5	56
	3-16	10-18	1.55-1.65	10.00-100.00	0.13-0.16	0.0-2.9	0.1-0.5	.24	.28			
	16-44	10-18	1.75-1.85	10.00-100.00	0.13-0.16	0.0-2.9	0.0-0.1	.24	.28			
	44-62	0-10	1.45-1.55	10.00-100.00	0.04-0.05	0.0-2.9	0.0-0.0	.15	.37			
Qwynn-----	0-3	8-18	1.35-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.20	5	5	56
	3-28	8-18	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.2	.20	.28			
	28-52	18-27	1.30-1.50	4.00-14.00	0.07-0.14	3.0-5.9	0.3-0.5	.10	.20			
	52-70	5-18	1.50-1.70	14.00-42.00	0.04-0.08	0.0-2.9	0.2-0.4	.10	.24			
1360:												
Veet-----	0-4	5-18	1.47-1.62	14.00-28.00	0.05-0.11	0.0-2.9	0.3-1.0	.28	.32	3	5	56
	4-16	10-18	1.35-1.55	4.00-14.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.37			
	16-60	5-15	1.40-1.60	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
Armespan-----	0-3	10-18	1.40-1.50	14.00-42.00	0.06-0.15	0.0-2.9	0.6-1.0	.24	.37	3	5	56
	3-11	10-18	1.45-1.55	14.00-42.00	0.07-0.14	0.0-2.9	0.0-0.6	.20	.37			
	11-22	10-18	1.50-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
	22-60	5-10	1.55-1.65	72.00-141.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.28			
1362:												
Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	8	0
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Amtoft-----	0-3	15-25	1.35-1.55	4.00-14.00	0.07-0.11	0.0-2.9	1.0-2.0	.15	.37	1	6	48
	3-11	12-27	1.40-1.60	4.00-14.00	0.06-0.11	0.0-2.9	0.5-1.0	.10	.37			
	11-15	---	---	0.00-0.42	---	---	---	---	---			
Amtoft-----	0-3	15-25	1.30-1.50	4.00-14.00	0.13-0.17	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	3-11	12-27	1.40-1.60	4.00-14.00	0.06-0.11	0.0-2.9	0.5-1.0	.10	.37			
	11-15	---	---	0.00-0.42	---	---	---	---	---			
1370:												
Amtoft-----	0-3	12-16	1.60-1.70	1.00-10.00	0.07-0.11	0.0-2.9	0.6-0.7	.10	.37	1	4L	86
	3-11	14-27	1.70-1.80	1.00-10.00	0.06-0.11	0.0-2.9	0.5-0.6	.05	.37			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	5	56
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
1380:												
Cavehill-----	0-14	18-27	1.05-1.20	4.00-14.00	0.09-0.13	0.0-2.9	4.0-6.0	.17	.43	2	7	38
	14-25	18-27	1.10-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.17	.43			
	25-35	---	---	0.00-0.01	---	---	---	---	---			
Cavehill-----	0-14	18-27	1.05-1.20	4.00-14.00	0.07-0.10	0.0-2.9	4.0-6.0	.10	.43	2	8	0
	14-25	18-27	1.10-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.17	.43			
	25-35	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1381:												
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-5	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.32	.49			
	5-18	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	18-70	---	---	0.00-0.01	---	---	---	---	---			
Armespan-----	0-1	10-18	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.8-2.0	.10	.32	3	5	56
	1-9	10-18	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.20	.37			
	9-19	12-18	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.24	.37			
	19-31	10-18	1.45-1.65	4.00-14.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.24			
	31-60	5-10	1.45-1.60	42.00-141.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.17			

TABLE 9.--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					
1382:												
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-5	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.32	.49			
	5-18	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	18-70	---	---	0.00-0.01	---	---	---	---	---			
Medburn-----	0-8	12-18	1.35-1.50	4.00-14.00	0.19-0.21	0.0-2.9	1.0-2.0	.24	.24	5	4L	86
	8-60	5-18	1.35-1.50	14.00-42.00	0.07-0.12	0.0-2.9	0.0-1.0	.17	.32			
1384:												
Cavehill-----	0-3	10-25	1.05-1.20	14.00-42.00	0.12-0.14	0.0-2.9	4.0-6.0	.32	.43	2	5	56
	3-10	10-25	1.05-1.20	14.00-42.00	0.10-0.13	0.0-2.9	2.0-4.0	.32	.37			
	10-27	18-27	1.10-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.15	.43			
	27-31	---	---	0.00-0.01	---	---	---	---	---			
Haunchee-----	0-7	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.15	.43	1	8	0
	7-19	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.55			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Cavehill-----	0-3	10-25	1.05-1.20	14.00-42.00	0.12-0.14	0.0-2.9	4.0-6.0	.32	.43	2	8	0
	3-10	10-25	1.05-1.20	14.00-42.00	0.10-0.13	0.0-2.9	2.0-4.0	.32	.37			
	10-27	18-27	1.10-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.15	.43			
	27-31	---	---	0.00-0.01	---	---	---	---	---			
1386:												
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-5	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.32	.49			
	5-18	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	18-70	---	---	0.00-0.01	---	---	---	---	---			
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-5	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.32	.49			
	5-18	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	18-70	---	---	0.00-0.01	---	---	---	---	---			
Eastmore-----	0-3	10-18	1.25-1.40	14.00-42.00	0.13-0.15	0.0-2.9	1.0-2.0	.24	.43	2	4	86
	3-17	12-18	1.30-1.50	4.00-14.00	0.08-0.11	0.0-2.9	0.5-2.0	.24	.32			
	17-49	---	---	0.42-1.40	---	---	---	---	---			
	49-65	5-10	1.35-1.55	14.00-42.00	0.08-0.11	0.0-2.9	0.0-0.5	.24	.43			
1388:												
Eastmore-----	0-3	10-18	1.25-1.40	14.00-42.00	0.13-0.15	0.0-2.9	1.0-2.0	.24	.43	2	4	86
	3-17	12-18	1.30-1.50	4.00-14.00	0.08-0.11	0.0-2.9	0.5-2.0	.24	.32			
	17-49	---	---	0.42-1.40	---	---	---	---	---			
	49-65	5-10	1.35-1.55	14.00-42.00	0.08-0.11	0.0-2.9	0.0-0.5	.24	.43			
Summermute-----	0-3	10-18	1.45-1.65	4.00-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.28	.49	5	5	56
	3-11	10-18	1.45-1.65	4.00-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.28	.49			
	11-16	10-18	1.45-1.65	4.00-14.00	0.08-0.13	0.0-2.9	0.0-0.5	.17	.55			
	16-43	10-18	1.55-1.70	0.42-4.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.20			
	43-60	10-18	1.55-1.75	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.20			
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-5	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.32	.49			
	5-18	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	18-70	---	---	0.00-0.01	---	---	---	---	---			
1400:												
Suak-----	0-10	10-20	1.20-1.40	4.00-14.00	0.04-0.07	0.0-2.9	2.0-5.0	.05	.43	2	8	0
	10-25	20-27	1.30-1.50	4.00-14.00	0.03-0.06	3.0-5.9	0.5-1.0	.02	.43			
	25-29	---	---	0.00-0.01	---	---	---	---	---			
Segura-----	0-3	15-20	1.35-1.55	4.00-14.00	0.08-0.12	3.0-5.9	1.0-3.0	.10	.37	1	7	38
	3-14	20-35	1.40-1.60	4.00-14.00	0.14-0.16	3.0-5.9	1.0-2.0	.24	.43			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
McIvey-----	0-18	20-27	1.05-1.20	4.00-14.00	0.10-0.15	3.0-5.9	2.0-5.0	.05	.43	5	8	0
	18-23	30-40	1.25-1.45	1.40-4.00	0.12-0.17	0.0-2.9	1.0-2.0	.10	.43			
	23-62	40-50	1.25-1.40	0.01-0.42	0.07-0.10	3.0-5.9	0.5-1.0	.05	.37			

TABLE 9.--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					
1430:												
Hardzem-----	0-1	10-20	1.40-1.60	4.00-14.00	0.10-0.15	0.0-2.9	1.0-2.0	.20	.37	3	6	48
	1-21	20-30	1.40-1.60	0.42-1.40	0.05-0.11	0.0-2.9	1.0-2.0	.05	.43			
	21-52	---	---	0.01-0.42	---	---	---	---	---			
	52-56	---	---	0.00-0.01	---	---	---	---	---			
Hackwood-----	0-23	17-27	1.10-1.25	4.00-14.00	0.12-0.15	3.0-5.9	2.0-4.0	.10	.55	5	8	0
	23-32	15-27	1.25-1.35	4.00-14.00	0.10-0.17	3.0-5.9	1.0-2.0	.28	.49			
	32-60	25-35	1.35-1.45	4.00-14.00	0.08-0.14	3.0-5.9	0.5-1.0	.15	.43			
Guiser-----	0-7	12-22	1.35-1.50	14.00-42.00	0.08-0.09	0.0-2.9	1.0-3.0	.05	.55	3	8	0
	7-15	5-18	1.35-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.5-2.0	.05	.20			
	15-36	18-27	1.35-1.50	4.00-14.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.37			
	36-60	5-12	1.40-1.55	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.15			
1435:												
Haunchee-----	0-7	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	3.0-5.0	.10	.37	1	7	38
	7-19	10-20	1.05-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.43			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop---	---	---	---	---	---	---	---	---	---	-	---	---
1470:												
Tybo-----	0-3	5-18	1.40-1.55	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.5	.28	.32	1	4	86
	3-17	5-18	1.40-1.55	14.00-42.00	0.09-0.15	0.0-2.9	0.0-0.5	.37	.55			
	17-60	---	---	0.00-0.01	---	---	---	---	---			
Koyen-----	0-4	5-15	1.30-1.45	14.00-42.00	0.10-0.12	0.0-2.9	0.5-0.7	.20	.32	4	4	86
	4-45	10-18	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.28	.37			
	45-60	0-10	1.50-1.65	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
1473:												
Tybo-----	0-3	8-18	1.40-1.55	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.5	.17	.37	1	4	86
	3-17	5-18	1.40-1.55	14.00-42.00	0.09-0.15	0.0-2.9	0.0-0.5	.37	.55			
	17-60	---	---	0.00-0.01	---	---	---	---	---			
Leo-----	0-4	5-15	1.45-1.65	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.17	5	5	56
	4-60	0-5	1.50-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.20			
1475:												
Treadwell-----	0-5	8-16	1.39-1.41	14.00-42.00	0.06-0.09	0.0-2.9	0.7-1.3	.15	.32	1	8	0
	5-8	8-18	1.41-1.48	4.00-14.00	0.02-0.07	0.0-2.9	0.6-0.8	.05	.32			
	8-35	---	---	0.42-1.40	---	---	---	---	---			
	35-60	3-5	1.48-1.52	42.00-80.00	0.00-0.00	0.0-0.1	0.0-0.2	.02	.10			
Treadwell-----	0-5	8-16	1.39-1.41	14.00-42.00	0.06-0.09	0.0-2.9	0.7-1.3	.15	.32	1	8	0
	5-8	8-18	1.41-1.48	4.00-14.00	0.02-0.07	0.0-2.9	0.6-0.8	.05	.32			
	8-35	---	---	0.42-1.40	---	---	---	---	---			
	35-60	3-5	1.48-1.52	42.00-80.00	0.00-0.00	0.0-0.1	0.0-0.2	.02	.10			
Veet-----	0-4	5-18	1.47-1.62	14.00-28.00	0.05-0.11	0.0-2.9	0.3-1.0	.28	.32	3	4	86
	4-16	10-18	1.35-1.55	4.00-14.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.37			
	16-60	5-15	1.40-1.60	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
1485:												
Monarch-----	0-8	12-18	1.30-1.45	14.00-42.00	0.04-0.12	0.0-2.9	1.0-3.0	.10	.37	1	8	0
	8-15	12-18	1.25-1.45	4.00-14.00	0.05-0.12	0.0-2.9	0.6-2.0	.15	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
Highup-----	0-5	12-18	1.05-1.20	4.00-14.00	0.07-0.12	0.0-2.9	2.0-4.0	.10	.37	2	8	0
	5-16	12-18	1.10-1.30	4.00-14.00	0.07-0.13	0.0-2.9	1.0-3.0	.15	.49			
	16-33	12-18	1.10-1.30	4.00-14.00	0.07-0.12	0.0-2.9	0.9-1.5	.10	.43			
	33-37	---	---	0.00-0.01	---	---	---	---	---			
Eganroc-----	0-9	18-27	1.25-1.45	4.00-14.00	0.06-0.08	0.0-2.9	2.0-4.0	.15	.43	2	8	0
	9-34	16-27	1.40-1.60	4.00-14.00	0.03-0.06	0.0-2.9	0.8-2.0	.10	.43			
	34-38	---	---	0.00-0.01	---	---	---	---	---			
1501:												
Radol-----	0-2	10-25	1.04-1.29	4.00-14.00	0.06-0.12	3.0-5.9	1.3-3.0	.20	.43	1	4L	86
	2-15	18-27	1.04-1.35	4.00-14.00	0.06-0.11	3.0-5.9	1.0-3.0	.10	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
Monarch-----	0-8	12-18	1.30-1.45	14.00-42.00	0.04-0.07	0.0-2.9	1.0-3.0	.05	.32	1	8	0
	8-15	12-18	1.25-1.45	4.00-14.00	0.05-0.12	0.0-2.9	0.6-2.0	.15	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
Highup-----	0-5	12-18	1.05-1.20	4.00-14.00	0.07-0.12	0.0-2.9	2.0-4.0	.10	.37	2	8	0
	5-16	12-18	1.10-1.30	4.00-14.00	0.07-0.13	0.0-2.9	1.0-3.0	.15	.49			
	16-33	12-18	1.10-1.30	4.00-14.00	0.07-0.12	0.0-2.9	0.9-1.5	.10	.43			
	33-37	---	---	0.00-0.01	---	---	---	---	---			
1502:												
Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Logring-----	0-3	8-15	1.35-1.50	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.15	.43	1	7	38
	3-10	10-18	1.30-1.45	4.00-14.00	0.08-0.10	0.0-2.9	0.5-1.0	.10	.49			
	10-14	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	
1510:												
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	5	56
	2-8	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.28	.43			
	8-16	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	16-60	---	---	0.00-0.01	---	---	---	---	---			
Jarab-----	0-4	7-20	1.35-1.55	4.00-14.00	0.11-0.13	0.0-2.9	2.0-4.0	.20	.37	1	5	56
	4-13	20-35	1.35-1.55	1.40-4.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.32			
	13-60	---	---	0.01-0.42	---	---	---	---	---			
Pamsdel-----	0-10	18-27	1.25-1.35	1.00-10.00	0.09-0.15	0.0-5.9	2.0-4.0	.20	.37	1	4L	86
	10-19	18-27	1.45-1.55	1.00-10.00	0.08-0.11	0.0-5.9	0.5-1.5	.15	.49			
	19-53	---	---	0.00-0.01	---	---	---	---	---			
	53-62	---	---	90.00-100.00	---	---	---	---	---			
1525:												
Ubehebe-----	0-7	8-12	1.35-1.55	14.00-42.00	0.06-0.08	0.0-2.9	1.0-2.0	.10	.28	2	5	56
	7-12	15-20	1.30-1.50	4.00-14.00	0.09-0.12	0.0-2.9	0.5-2.0	.15	.37			
	12-19	18-27	1.30-1.50	4.00-14.00	0.08-0.11	3.0-5.9	0.5-1.0	.10	.43			
	19-29	---	---	0.42-141.00	---	---	---	---	---			
Penelas-----	0-5	10-20	1.15-1.30	4.00-14.00	0.04-0.07	0.0-2.9	1.0-2.0	.15	.37	1	6	48
	5-13	27-35	1.25-1.40	1.40-4.00	0.02-0.05	0.0-2.9	0.5-1.0	.05	.43			
	13-18	---	---	0.01-0.42	---	---	---	---	---			
Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.05-0.07	0.0-2.9	0.5-1.0	.15	.55	1	5	56
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
1700:												
Garfan-----	0-8	18-27	1.25-1.45	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.20	.43	3	7	38
	8-27	35-45	1.25-1.45	0.01-0.42	0.03-0.06	3.0-5.9	0.5-1.0	.02	.37			
	27-60	35-45	1.25-1.45	0.01-0.42	0.03-0.06	3.0-5.9	0.0-0.5	.02	.37			
Garfan-----	0-8	18-27	1.25-1.45	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.20	.43	3	7	38
	8-27	35-45	1.25-1.45	0.01-0.42	0.03-0.06	3.0-5.9	0.5-1.0	.02	.37			
	27-60	35-45	1.25-1.45	0.01-0.42	0.03-0.06	3.0-5.9	0.0-0.5	.02	.37			
McIvey-----	0-12	12-27	1.05-1.20	4.00-14.00	0.12-0.15	3.0-5.9	2.0-5.0	.15	.43	5	8	0
	12-16	20-30	1.15-1.35	4.00-14.00	0.10-0.12	3.0-5.9	1.0-2.0	.15	.37			
	16-31	30-50	1.25-1.45	1.40-4.00	0.12-0.17	3.0-5.9	0.5-1.0	.10	.43			
	31-60	30-50	1.25-1.40	0.01-0.42	0.07-0.10	3.0-5.9	0.5-1.0	.05	.37			
1701:												
Suak-----	0-11	10-20	1.20-1.40	4.00-14.00	0.09-0.15	0.0-2.9	2.0-5.0	.15	.37	2	8	0
	11-21	20-27	1.30-1.50	4.00-14.00	0.05-0.15	3.0-5.9	0.5-1.0	.10	.37			
	21-31	---	---	0.00-0.01	---	---	---	---	---			
Chen-----	0-3	20-27	1.10-1.25	4.00-14.00	0.08-0.12	0.0-2.9	2.0-3.0	.20	.37	1	8	0
	3-12	40-55	1.25-1.40	0.01-0.42	0.05-0.09	3.0-5.9	0.5-2.0	.10	.37			
	12-16	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1730:												
Qwynn-----	0-3	8-18	1.35-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.20	5	5	56
	3-28	8-18	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.2	.20	.28			
	28-52	18-27	1.30-1.50	4.00-14.00	0.07-0.14	3.0-5.9	0.3-0.5	.10	.20			
	52-70	5-18	1.50-1.70	14.00-42.00	0.04-0.08	0.0-2.9	0.2-0.4	.10	.24			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
1731:												
Cath-----	0-3	10-20	1.30-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.28	.49	5	6	48
	3-21	25-35	1.30-1.50	0.42-1.40	0.13-0.19	3.0-5.9	0.5-2.0	.32	.43			
	21-33	20-30	1.30-1.50	1.40-4.00	0.06-0.12	3.0-5.9	0.5-1.0	.05	.37			
	33-60	5-10	1.50-1.70	1.40-4.00	0.05-0.07	0.0-2.9	0.0-0.3	.05	.28			
Chuckridge-----	0-2	10-25	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	0.8-2.0	.15	.32	1	4	86
	2-11	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	11-60	---	---	0.00-0.01	---	---	---	---	---			
1732:												
Cath-----	0-3	10-20	1.30-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.28	.49	5	6	48
	3-21	25-35	1.30-1.50	0.42-1.40	0.13-0.19	3.0-5.9	0.5-2.0	.32	.43			
	21-33	20-30	1.30-1.50	1.40-4.00	0.06-0.12	3.0-5.9	0.5-1.0	.05	.37			
	33-60	5-10	1.50-1.70	1.40-4.00	0.05-0.07	0.0-2.9	0.0-0.3	.05	.28			
Watoopah-----	0-4	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.20	.28	3	3	86
	4-14	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	14-40	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	40-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
1733:												
Cath-----	0-3	10-20	1.30-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.28	.49	5	6	48
	3-21	25-35	1.30-1.50	0.42-1.40	0.13-0.19	3.0-5.9	0.5-2.0	.32	.43			
	21-33	20-30	1.30-1.50	1.40-4.00	0.06-0.12	3.0-5.9	0.5-1.0	.05	.37			
	33-60	5-10	1.50-1.70	1.40-4.00	0.05-0.07	0.0-2.9	0.0-0.3	.05	.28			
Watoopah-----	0-4	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.20	.28	3	3	86
	4-14	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	14-40	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	40-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
1810:												
Boxspring-----	0-3	10-18	1.40-1.60	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.15	.43	1	7	38
	3-16	10-18	1.45-1.60	4.00-14.00	0.09-0.11	0.0-2.9	0.0-0.5	.17	.43			
	16-26	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1880:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Pintwater-----	0-4	10-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.15	.32	1	8	0
	4-20	10-18	1.35-1.50	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.5	.10	.32			
	20-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 9.--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					
1881:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1882:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
1885:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
1900:												
Eaglepass-----	0-2	4-10	1.20-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
Amtoft-----	0-3	12-16	1.60-1.70	1.00-10.00	0.07-0.11	0.0-2.9	0.6-0.7	.10	.37	1	4L	86
	3-11	14-27	1.70-1.80	1.00-10.00	0.06-0.11	0.0-2.9	0.5-0.6	.05	.37			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
1910:												
Radol-----	0-2	10-25	1.04-1.29	4.00-14.00	0.06-0.12	3.0-5.9	1.3-3.0	.20	.43	1	4L	86
	2-15	18-27	1.04-1.35	4.00-14.00	0.06-0.11	3.0-5.9	1.0-3.0	.10	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
1920:												
Eganroc-----	0-9	18-27	1.25-1.45	4.00-14.00	0.06-0.08	0.0-2.9	2.0-4.0	.15	.43	2	8	0
	9-34	16-27	1.40-1.60	4.00-14.00	0.03-0.06	0.0-2.9	0.8-2.0	.10	.43			
	34-38	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
Radol-----	0-2	10-25	1.04-1.29	4.00-14.00	0.06-0.12	3.0-5.9	1.3-3.0	.20	.43	1	4L	86
	2-15	18-27	1.04-1.35	4.00-14.00	0.06-0.11	3.0-5.9	1.0-3.0	.10	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
1922:												
Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
Eaglepass-----	0-2	8-18	1.20-1.40	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
Radol-----	0-2	10-25	1.04-1.29	4.00-14.00	0.06-0.12	3.0-5.9	1.3-3.0	.20	.43	1	4L	86
	2-15	18-27	1.04-1.35	4.00-14.00	0.06-0.11	3.0-5.9	1.0-3.0	.10	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
1930: Nuhelen-----	0-4	10-20	1.30-1.40	4.00-14.00	0.06-0.11	0.0-2.9	2.5-5.0	.10	.32	1	5	56
	4-6	14-25	1.30-1.45	1.40-4.00	0.05-0.11	3.0-5.9	1.5-2.5	.10	.20			
	6-13	18-30	1.30-1.45	1.40-4.00	0.06-0.11	3.0-5.9	1.0-2.0	.10	.20			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1940: Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.03-0.05	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.03-0.05	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1942: Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
1945: Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
1946: Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	0.00-0.00	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 9.--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					
1948:												
Farepeak-----	0-3	18-30	1.20-1.50	4.00-14.00	0.09-0.15	0.0-2.9	3.0-8.0	.10	.32	1	5	56
	3-13	27-35	1.20-1.50	4.00-14.00	0.11-0.15	0.0-2.9	2.0-4.0	.05	.15			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	3	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1949:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
1955:												
Treadwell-----	0-5	8-16	1.39-1.41	14.00-42.00	0.06-0.09	0.0-2.9	0.7-1.3	.15	.32	1	8	0
	5-8	8-18	1.41-1.48	4.00-14.00	0.02-0.07	0.0-2.9	0.6-0.8	.05	.32			
	8-35	---	---	0.42-1.40	---	---	---	---	---			
	35-60	3-5	1.48-1.52	42.00-80.00	0.00-0.00	0.0-0.1	0.0-0.2	.02	.10			
Chuckridge-----	0-2	10-18	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	0.8-2.0	.15	.32	1	7	38
	2-11	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	11-60	---	---	0.00-0.01	---	---	---	---	---			
Handpah-----	0-2	15-20	1.30-1.50	14.00-45.00	0.07-0.15	0.0-2.9	1.0-2.0	.24	.37	1	7	38
	2-8	25-35	1.20-1.40	1.40-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.20	.37			
	8-14	4-18	1.35-1.55	14.00-42.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.37			
	14-18	---	---	0.00-0.01	---	---	---	---	---			
	18-60	---	---	0.01-0.42	---	---	---	---	---			
1957:												
Malmesa-----	0-3	10-18	1.40-1.60	14.00-42.00	0.08-0.10	0.0-2.9	0.8-2.0	.05	.32	1	5	56
	3-12	27-35	1.40-1.55	0.42-1.40	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	12-16	10-18	1.40-1.60	4.00-14.00	0.06-0.09	0.0-2.9	0.0-0.5	.05	.37			
	16-17	---	---	0.00-0.00	---	---	---	---	---			
	17-21	---	---	0.00-0.00	---	---	---	---	---			
Nevoyer-----	0-4	12-18	1.35-1.50	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.17	.37	1	5	56
	4-17	12-18	1.40-1.60	4.00-14.00	0.08-0.10	0.0-2.9	0.0-0.5	.17	.37			
	17-18	---	---	0.00-0.01	---	---	---	---	---			
	18-22	---	---	0.00-0.01	---	---	---	---	---			
Treadwell-----	0-5	8-16	1.39-1.41	14.00-42.00	0.06-0.09	0.0-2.9	0.7-1.3	.15	.32	1	8	0
	5-8	8-18	1.41-1.48	4.00-14.00	0.02-0.07	0.0-2.9	0.6-0.8	.05	.32			
	8-35	---	---	0.42-1.40	---	---	---	---	---			
	35-60	3-5	1.48-1.52	42.00-80.00	0.00-0.00	0.0-0.1	0.0-0.2	.02	.10			
1958:												
Nevoyer-----	0-4	12-18	1.35-1.50	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.17	.37	1	5	56
	4-17	12-18	1.40-1.60	4.00-14.00	0.08-0.10	0.0-2.9	0.0-0.5	.17	.37			
	17-18	---	---	0.00-0.01	---	---	---	---	---			
	18-22	---	---	0.00-0.01	---	---	---	---	---			
Lomoin-----	0-3	8-15	1.35-1.55	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.10	.32	1	5	56
	3-4	8-15	1.35-1.55	14.00-42.00	0.07-0.09	0.0-2.9	0.0-0.5	.10	.28			
	4-8	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 9.--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					
1959:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---	-	---	---
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.05-0.08	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
1960:												
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
1989:												
Gabbvally-----	0-2	10-18	1.35-1.50	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.43	1	7	38
	2-11	18-27	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.8	.15	.32			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
1990:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
2000:												
Playas-----	0-6	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	0.0-0.1	.37	---	5	5	56
	6-60	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	---	.37	---			
2010:												
Chuffa-----	0-3	15-18	1.25-1.45	4.00-14.00	0.19-0.21	0.0-2.9	1.0-2.0	.55	.55	5	4L	86
	3-13	18-30	1.30-1.55	4.00-14.00	0.16-0.21	3.0-5.9	0.5-1.0	.55	.55			
	13-60	18-30	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
Chuffa-----	0-3	15-18	1.25-1.45	4.00-14.00	0.19-0.21	0.0-2.9	1.0-2.0	.55	.55	5	4L	86
	3-13	18-30	1.30-1.55	4.00-14.00	0.16-0.21	3.0-5.9	0.5-1.0	.55	.55			
	13-60	18-30	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
2020:												
Yobe-----	0-11	15-25	1.30-1.45	1.40-4.00	0.10-0.15	0.0-2.9	1.0-2.0	.64	.64	5	4L	86
	11-18	18-35	1.30-1.45	1.40-4.00	0.05-0.15	3.0-5.9	0.0-0.5	.64	.64			
	18-60	5-25	1.35-1.50	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.55	.55			
Yobe-----	0-11	15-25	1.30-1.45	1.40-4.00	0.10-0.15	0.0-2.9	1.0-2.0	.64	.64	5	4L	86
	11-18	18-35	1.30-1.45	1.40-4.00	0.05-0.15	3.0-5.9	0.0-0.5	.64	.64			
	18-60	5-25	1.35-1.50	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.55	.55			
2030:												
Teebone-----	0-2	27-40	1.50-1.60	1.40-4.00	0.18-0.25	3.0-5.9	0.2-1.0	.55	.55	3	4L	86
	2-31	35-50	1.50-1.60	0.42-1.40	0.18-0.25	3.0-5.9	0.0-0.5	.64	.64			
	31-60	35-50	1.50-1.60	0.42-1.40	0.16-0.25	3.0-5.9	0.0-0.5	.64	.64			
Yobe-----	0-11	15-25	1.30-1.45	1.40-4.00	0.10-0.15	0.0-2.9	1.0-2.0	.64	.64	5	4L	86
	11-18	18-35	1.30-1.45	1.40-4.00	0.05-0.15	3.0-5.9	0.0-0.5	.64	.64			
	18-60	5-25	1.35-1.50	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.55	.55			
2041:												
Kolda-----	0-6	10-25	1.20-1.40	4.00-14.00	0.19-0.21	3.0-5.9	3.0-4.0	.55	.55	5	4L	86
	6-22	20-27	1.30-1.50	4.00-14.00	0.19-0.21	3.0-5.9	1.0-3.0	.55	.55			
	22-60	40-50	1.40-1.60	0.42-1.40	0.14-0.17	6.0-8.9	0.0-1.0	.24	.24			

TABLE 9.--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					
Duffer-----	0-11	15-20	1.35-1.50	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.37	.37	5	4L	86
	11-48	20-35	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	48-66	15-30	1.45-1.65	1.40-4.00	0.15-0.21	3.0-5.9	0.0-0.5	.49	.49			
2050:												
Ragnel-----	0-3	3-8	1.45-1.65	42.00-141.00	0.05-0.07	0.0-2.9	1.0-2.0	.05	.20	5	2	134
	3-11	8-18	1.50-1.70	14.00-42.00	0.08-0.11	0.0-2.9	0.6-1.0	.05	.20			
	11-60	0-3	1.60-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
2060:												
Crestline-----	0-5	10-18	1.35-1.45	14.00-42.00	0.10-0.15	0.0-2.9	1.0-2.0	.32	.32	3	3	86
	5-10	12-24	1.35-1.45	14.00-42.00	0.10-0.20	0.0-2.9	0.5-1.0	.49	.49			
	10-51	10-18	1.35-1.45	14.00-42.00	0.08-0.11	0.0-2.9	0.2-0.8	.20	.32			
	51-60	2-6	1.50-1.60	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28			
Crestline-----	0-5	10-18	1.35-1.45	14.00-42.00	0.10-0.15	0.0-2.9	1.0-2.0	.32	.32	3	3	86
	5-10	12-24	1.35-1.45	14.00-42.00	0.10-0.20	0.0-2.9	0.5-1.0	.49	.49			
	10-51	10-18	1.35-1.45	14.00-42.00	0.08-0.11	0.0-2.9	0.2-0.8	.20	.32			
	51-60	2-6	1.50-1.60	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28			
Veet-----	0-4	5-18	1.47-1.62	14.00-28.00	0.05-0.11	0.0-2.9	0.3-1.0	.28	.32	3	4	86
	4-16	10-18	1.35-1.55	4.00-14.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.37			
	16-60	5-15	1.40-1.60	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
2061:												
Crestline-----	0-5	10-18	1.35-1.45	14.00-42.00	0.10-0.15	0.0-2.9	1.0-2.0	.32	.32	3	3	86
	5-10	12-24	1.35-1.45	14.00-42.00	0.10-0.20	0.0-2.9	0.5-1.0	.49	.49			
	10-51	10-18	1.35-1.45	14.00-42.00	0.08-0.11	0.0-2.9	0.2-0.8	.20	.32			
	51-60	2-6	1.50-1.60	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28			
Linoyer-----	0-11	10-18	1.30-1.50	4.00-14.00	0.16-0.18	0.0-2.9	0.5-1.0	.49	.49	5	4L	86
	11-60	10-18	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.5-1.0	.49	.49			
2071:												
Chuffa-----	0-3	15-18	1.25-1.45	4.00-14.00	0.19-0.21	0.0-2.9	1.0-2.0	.55	.55	5	4L	86
	3-13	18-30	1.30-1.55	4.00-14.00	0.16-0.21	3.0-5.9	0.5-1.0	.55	.55			
	13-60	18-30	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
Linoyer-----	0-11	10-18	1.30-1.50	4.00-14.00	0.16-0.18	0.0-2.9	0.5-1.0	.49	.49	5	3	86
	11-60	10-18	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.5-1.0	.49	.49			
Playas-----	0-6	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	0.0-0.1	.37	---	5	5	56
	6-60	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	---	.37	---			
2100:												
Glotrain-----	0-4	7-15	1.50-1.60	4.00-14.00	0.08-0.12	0.0-2.9	0.8-1.5	.10	.20	5	5	56
	4-26	10-18	1.40-1.50	4.00-14.00	0.07-0.11	0.0-2.9	0.2-0.4	.10	.24			
	26-60	4-10	1.50-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.1-0.3	.02	.15			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
2120:												
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			

TABLE 9.--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					
2122: Lojet-----	0-4	10-18	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	0.8-1.5	.17	.24	2	3	86
	4-11	27-35	1.35-1.45	4.00-14.00	0.12-0.15	3.0-5.9	0.3-0.5	.20	.28			
	11-28	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	28-35	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	35-41	---	---	0.00-0.01	---	---	---	---	---			
	41-60	4-14	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.1-0.3	.10	.24			
Littleaillie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
2123: Littleaillie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
Lojet-----	0-4	10-18	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	0.8-1.5	.17	.24	2	3	86
	4-11	27-35	1.35-1.45	4.00-14.00	0.12-0.15	3.0-5.9	0.3-0.5	.20	.28			
	11-28	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	28-35	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	35-41	---	---	0.00-0.01	---	---	---	---	---			
	41-60	4-14	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.1-0.3	.10	.24			
2280: Granquin-----	0-2	10-18	1.45-1.55	14.00-42.00	0.06-0.11	0.0-2.9	1.0-3.0	.15	.43	1	8	0
	2-14	27-35	1.45-1.55	4.00-14.00	0.03-0.08	3.0-5.9	0.8-1.5	.05	.28			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	4	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Starflyer-----	0-3	6-18	1.48-1.57	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.32	2	4	86
	3-18	27-35	1.48-1.52	1.40-4.00	0.13-0.15	3.0-5.9	2.0-4.0	.10	.37			
	18-22	---	---	0.00-0.06	---	---	---	---	---			
2283: Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
2284: Starflyer-----	0-3	6-18	1.48-1.57	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.05	.20	2	4	86
	3-18	27-35	1.48-1.52	1.40-4.00	0.13-0.15	3.0-5.9	2.0-4.0	.10	.37			
	18-22	---	---	0.00-0.06	---	---	---	---	---			
Starflyer-----	0-3	6-18	1.48-1.57	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.05	.20	2	4	86
	3-18	27-35	1.48-1.52	1.40-4.00	0.13-0.15	3.0-5.9	2.0-4.0	.10	.37			
	18-22	---	---	0.00-0.06	---	---	---	---	---			
2285: Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	4	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			

TABLE 9.--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					
Starflyer-----	0-3	6-18	1.48-1.57	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.05	.20	2	4	86
	3-18	27-35	1.48-1.52	4.00-14.00	0.13-0.15	3.0-5.9	2.0-4.0	.10	.37			
	18-22	---	---	0.00-0.06	---	---	---	---	---			
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	4	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
2286:												
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	4	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
2287:												
Granquin-----	0-2	10-18	1.45-1.55	14.00-42.00	0.06-0.11	0.0-2.9	1.0-3.0	.15	.43	1	8	0
	2-14	27-35	1.45-1.55	4.00-14.00	0.03-0.08	3.0-5.9	0.8-1.5	.05	.28			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	7	38
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
2288:												
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	7	38
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Granquin-----	0-2	10-18	1.45-1.55	14.00-42.00	0.06-0.11	0.0-2.9	1.0-3.0	.15	.43	1	8	0
	2-14	27-35	1.45-1.55	4.00-14.00	0.03-0.08	3.0-5.9	0.8-1.5	.05	.28			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
2290:												
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
2292:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
2296:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			

TABLE 9.--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					
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
2297:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	-	---	---	
2298:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Richinde-----	0-5	8-18	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.8-1.5	.10	.28	2	6	48
	5-18	27-35	1.40-1.55	4.00-14.00	0.04-0.08	3.0-5.9	0.5-1.0	.10	.24			
	18-22	---	---	0.01-20.00	---	---	---	---	---			
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
2299:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.05	.28	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	0.00-0.00	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	-	---	---	
2301:												
Stewval-----	0-1	12-18	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	0.5-2.0	.15	.43	1	5	56
	1-4	24-30	1.30-1.45	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.43			
	4-8	---	---	0.00-0.01	---	---	---	---	---			
Gabbvally-----	0-2	10-18	1.35-1.50	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.43	1	7	38
	2-11	18-27	1.30-1.50	4.00-14.00	0.11-0.13	0.0-2.9	0.0-0.8	.15	.32			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
2302:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Nuhelen-----	0-4	10-20	1.30-1.40	4.00-14.00	0.06-0.11	0.0-2.9	2.5-5.0	.10	.32	1	5	56
	4-6	14-25	1.30-1.45	1.40-4.00	0.05-0.11	3.0-5.9	1.5-2.5	.10	.20			
	6-13	18-30	1.30-1.45	1.40-4.00	0.06-0.11	3.0-5.9	1.0-2.0	.10	.20			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	-	---	---	
2304:												
Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			

TABLE 9.--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					
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
2305: Chubard-----	0-4	10-18	1.46-1.50	10.00-100.00	0.07-0.10	0.0-2.9	0.5-0.7	.10	.32	1	8	0
	4-7	18-30	1.48-1.52	1.00-10.00	0.04-0.08	3.0-5.9	0.4-0.6	.05	.43			
	7-10	18-32	1.50-1.54	1.00-10.00	0.04-0.10	3.0-5.9	0.0-0.5	.05	.43			
	10-14	---	---	0.00-0.10	---	---	---	---	---			
Littleaillie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
2311: Cliffdown-----	0-3	10-15	1.40-1.55	14.00-42.00	0.07-0.08	0.0-2.9	0.0-0.5	.24	.43	5	4	86
	3-54	5-18	1.40-1.60	14.00-42.00	0.06-0.07	0.0-2.9	0.0-0.5	.20	.37			
2312: Fang-----	0-3	5-18	1.40-1.60	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.5	.32	.37	4	3	86
	3-39	12-18	1.40-1.60	4.00-14.00	0.12-0.14	0.0-2.9	0.0-0.5	.37	.43			
	39-64	5-10	1.50-1.70	4.00-14.00	0.10-0.12	0.0-2.9	0.0-0.5	.15	.24			
Nyala-----	0-12	12-20	1.45-1.60	14.00-42.00	0.10-0.13	0.0-2.9	0.0-0.5	.20	.24	4	3	86
	12-22	27-35	1.30-1.50	1.40-4.00	0.15-0.17	3.0-5.9	0.0-0.5	.32	.32			
	22-42	12-20	1.55-1.70	1.40-4.00	0.10-0.13	0.0-2.9	0.0-0.5	.20	.20			
	42-60	3-8	1.55-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.24			
2320: Blackcan-----	0-4	10-19	1.45-1.61	14.00-42.00	0.08-0.11	0.0-2.9	0.4-0.6	.15	.37	1	3	86
	4-7	12-19	1.47-1.53	14.00-42.00	0.08-0.11	0.0-2.9	0.5-0.6	.15	.37			
	7-14	6-16	1.48-1.62	14.00-42.00	0.06-0.07	0.0-2.9	0.2-0.6	.10	.28			
	14-60	---	---	0.42-1.40	---	---	---	---	---			
Blackcan-----	0-4	10-19	1.45-1.61	14.00-42.00	0.08-0.11	0.0-2.9	0.4-0.6	.15	.37	1	3	86
	4-7	12-19	1.47-1.53	14.00-42.00	0.08-0.11	0.0-2.9	0.5-0.6	.15	.37			
	7-14	6-16	1.48-1.62	14.00-42.00	0.06-0.07	0.0-2.9	0.2-0.6	.10	.28			
	14-60	---	---	0.42-1.40	---	---	---	---	---			
3010: Anaud-----	0-10	15-20	1.25-1.45	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.10	.43	1	5	56
	10-16	20-35	1.35-1.55	1.40-4.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Cagas-----	0-5	7-15	1.35-1.50	14.00-42.00	0.05-0.07	0.0-2.9	2.0-4.0	.02	.15	3	7	38
	5-12	10-18	1.35-1.55	14.00-42.00	0.05-0.07	0.0-2.9	1.0-2.0	.05	.32			
	12-19	18-30	1.35-1.55	1.40-4.00	0.04-0.10	0.0-2.9	0.5-1.0	.05	.32			
	19-27	10-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.02	.15			
	27-37	---	---	0.00-1.40	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
3036: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.04-0.06	0.0-2.9	0.5-1.0	.15	.43	1	8	0
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Amtoft-----	0-3	15-25	1.35-1.55	4.00-14.00	0.07-0.11	0.0-2.9	1.0-2.0	.15	.37	1	6	48
	3-11	12-27	1.40-1.60	4.00-14.00	0.06-0.11	0.0-2.9	0.5-1.0	.10	.37			
	11-15	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 9.--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					
3170:												
Linoyer-----	0-10	10-18	1.30-1.50	4.00-14.00	0.16-0.18	0.0-2.9	0.5-1.0	.49	.49	5	4L	86
	10-60	10-18	1.30-1.50	4.00-14.00	0.15-0.18	0.0-2.9	0.5-1.0	.49	.49			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
3190:												
Penoyer-----	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.14-0.16	0.0-2.9	1.0-2.0	.37	.37	5	3	86
	12-65	5-18	1.40-1.55	4.00-14.00	0.16-0.18	0.0-2.9	0.5-2.0	.43	.43			
3192:												
Saltydog-----	0-4	18-26	1.45-1.55	14.00-42.00	0.14-0.20	0.0-2.9	0.8-2.0	.49	.49	5	4L	86
	4-17	27-40	1.15-1.35	14.00-42.00	0.14-0.20	0.0-2.9	0.6-1.5	.49	.49			
	17-46	20-35	1.25-1.45	14.00-42.00	0.14-0.20	0.0-2.9	0.2-1.0	.49	.49			
	46-65	0-6	1.60-1.75	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.3	.10	.20			
Ambush-----	0-5	10-16	1.45-1.55	10.00-100.00	0.11-0.11	0.0-2.9	0.3-0.5	.32	.32	4	3	86
	5-14	12-18	1.55-1.65	1.00-10.00	0.07-0.10	0.0-2.9	0.2-0.4	.10	.32			
	14-61	12-18	1.60-1.70	10.00-100.00	0.14-0.14	0.0-2.9	0.0-0.2	.32	.32			
Panacker-----	0-5	10-18	1.40-1.55	14.00-42.00	0.14-0.18	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	5-13	18-35	1.15-1.30	4.00-14.00	0.14-0.18	0.0-2.9	0.7-2.0	.49	.49			
	13-39	18-35	1.25-1.40	4.00-14.00	0.14-0.18	0.0-2.9	0.0-1.0	.32	.32			
	39-73	18-35	1.40-1.55	4.00-14.00	0.14-0.16	0.0-2.9	0.0-0.5	.37	.37			
3193:												
Ewelac-----	0-3	24-50	1.15-1.35	0.42-1.40	0.15-0.17	6.0-8.9	0.5-1.0	.32	.32	5	4	86
	3-10	32-50	1.40-1.55	0.42-1.40	0.15-0.17	6.0-8.9	0.0-0.5	.32	.32			
	10-35	35-50	1.40-1.55	0.42-1.40	0.15-0.17	6.0-8.9	0.0-0.5	.32	.32			
	35-60	40-50	1.40-1.55	0.42-1.40	0.15-0.17	6.0-8.9	0.0-0.5	.32	.32			
Playas-----	0-6	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	0.0-0.1	.37	---	5	5	56
	6-60	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	---	.37	---			
3194:												
Ambush-----	0-5	10-16	1.45-1.55	10.00-100.00	0.11-0.11	0.0-2.9	0.3-0.5	.32	.32	4	3	86
	5-14	12-18	1.55-1.65	1.00-10.00	0.07-0.10	0.0-2.9	0.2-0.4	.10	.32			
	14-61	12-18	1.60-1.70	10.00-100.00	0.14-0.14	0.0-2.9	0.0-0.2	.32	.32			
Panacker-----	0-5	10-18	1.40-1.55	14.00-42.00	0.14-0.18	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	5-13	18-35	1.15-1.30	4.00-14.00	0.14-0.18	0.0-2.9	0.7-2.0	.49	.49			
	13-39	18-35	1.25-1.40	4.00-14.00	0.14-0.18	0.0-2.9	0.0-1.0	.32	.32			
	39-73	18-35	1.40-1.55	4.00-14.00	0.14-0.16	0.0-2.9	0.0-0.5	.37	.37			
Playas-----	0-6	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	0.0-0.1	.37	---	5	5	56
	6-60	35-70	---	0.01-0.42	0.02-0.04	6.0-8.9	---	.37	---			
3196:												
Saltydog-----	0-4	18-26	1.45-1.55	14.00-42.00	0.14-0.20	0.0-2.9	0.8-2.0	.49	.49	5	4L	86
	4-17	27-40	1.15-1.35	14.00-42.00	0.14-0.20	0.0-2.9	0.6-1.5	.49	.49			
	17-46	20-35	1.25-1.45	14.00-42.00	0.14-0.20	0.0-2.9	0.2-1.0	.49	.49			
	46-65	0-6	1.60-1.75	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.3	.10	.20			
Geer-----	0-12	5-18	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.5-1.0	.43	.55	5	3	86
	12-65	5-18	1.30-1.50	4.00-14.00	0.12-0.17	0.0-2.9	0.5-1.0	.43	.55			
3198:												
Ambush-----	0-5	10-16	1.45-1.55	10.00-100.00	0.11-0.11	0.0-2.9	0.3-0.5	.32	.32	4	3	86
	5-14	12-18	1.55-1.65	1.00-10.00	0.07-0.10	0.0-2.9	0.2-0.4	.10	.32			
	14-61	12-18	1.60-1.70	10.00-100.00	0.14-0.14	0.0-2.9	0.0-0.2	.32	.32			
Penoyer-----	0-8	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	8-60	10-18	1.35-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			

TABLE 9.--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					
3221:												
Rouette-----	0-6	10-18	1.25-1.40	4.00-14.00	0.12-0.16	0.0-2.9	1.0-2.0	.37	.55	2	4L	86
	6-17	10-18	1.35-1.50	4.00-14.00	0.10-0.16	0.0-2.9	0.5-1.0	.24	.43			
	17-23	---	---	0.01-0.42	---	---	---	---	---			
	23-60	0-5	1.45-1.70	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.02	.10			
Ursine-----	0-2	10-25	1.35-1.50	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-5	10-25	1.35-1.55	4.00-14.00	0.12-0.15	0.0-2.9	0.5-2.0	.32	.49			
	5-18	8-20	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.5-1.0	.10	.28			
	18-70	---	---	0.00-0.01	---	---	---	---	---			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			
3290:												
Kunzler-----	0-4	8-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.24	5	4	86
	4-11	10-18	1.25-1.60	4.00-42.00	0.14-0.17	0.0-2.9	0.0-1.0	.24	.24			
	11-41	10-18	1.35-1.60	1.40-4.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	41-60	10-18	1.30-1.60	4.00-14.00	0.09-0.17	0.0-2.9	0.0-0.5	.43	.43			
Sycomat-----	0-3	5-15	1.45-1.65	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.32	.37	4	4	86
	3-21	5-18	1.40-1.60	4.00-14.00	0.07-0.09	0.0-2.9	0.0-0.5	.28	.43			
	21-48	5-18	1.45-1.65	4.00-14.00	0.05-0.07	0.0-2.9	0.0-0.5	.24	.37			
	48-60	2-5	1.50-1.70	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.20			
3409:												
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
Qwynn-----	0-3	8-18	1.35-1.50	14.00-42.00	0.07-0.11	0.0-2.9	0.8-2.0	.10	.20	5	5	56
	3-28	8-18	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-1.2	.20	.28			
	28-52	18-27	1.30-1.50	4.00-14.00	0.07-0.14	3.0-5.9	0.3-0.5	.10	.20			
	52-70	5-18	1.50-1.70	14.00-42.00	0.04-0.08	0.0-2.9	0.2-0.4	.10	.24			
Lojet-----	0-4	10-18	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	0.8-1.5	.17	.24	2	3	86
	4-11	27-35	1.35-1.45	4.00-14.00	0.12-0.15	3.0-5.9	0.3-0.5	.20	.28			
	11-28	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	28-35	27-35	1.35-1.45	4.00-14.00	0.08-0.15	3.0-5.9	0.2-0.4	.10	.24			
	35-41	---	---	0.00-0.01	---	---	---	---	---			
	41-60	4-14	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.1-0.3	.10	.24			
3411:												
Watoopah-----	0-2	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.05	.24	3	3	86
	2-12	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	12-18	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	18-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Cath-----	0-6	10-20	1.30-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-2.0	.28	.49	5	6	48
	6-20	25-35	1.30-1.50	0.42-1.40	0.13-0.15	3.0-5.9	0.5-2.0	.32	.43			
	20-28	20-30	1.30-1.50	1.40-4.00	0.06-0.08	3.0-5.9	0.5-1.0	.05	.37			
	28-60	5-10	1.50-1.70	1.40-4.00	0.05-0.07	0.0-2.9	0.0-0.3	.05	.28			
3412:												
Watoopah-----	0-2	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.05	.24	3	3	86
	2-12	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	12-18	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	18-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
Littleailie-----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			

TABLE 9.--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					
3416: Watoopah-----	0-4	3-8	1.50-1.65	42.00-141.00	0.04-0.08	0.0-2.9	0.5-1.0	.20	.28	3	3	86
	4-14	10-18	1.35-1.55	14.00-42.00	0.08-0.14	0.0-2.9	0.5-1.0	.10	.32			
	14-40	0-5	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.28			
	40-60	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			
3434: Lodar-----	0-3	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	8	0
	3-10	15-25	1.25-1.50	4.00-14.00	0.02-0.09	0.0-2.9	0.5-0.8	.10	.28			
	10-19	18-27	1.30-1.50	4.00-14.00	0.01-0.04	0.0-2.9	0.0-0.5	.05	.32			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Amtoft-----	0-3	12-16	1.60-1.70	1.00-10.00	0.07-0.11	0.0-2.9	0.6-0.7	.10	.37	1	4L	86
	3-11	14-27	1.70-1.80	1.00-10.00	0.06-0.11	0.0-2.9	0.5-0.6	.05	.37			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
3462: Littleailie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
Devildog-----	0-4	4-16	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.5-1.2	.05	.20	5	4	86
	4-12	4-18	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.5-1.0	.10	.20			
	12-38	4-18	1.50-1.65	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.5	.05	.20			
	38-60	10-24	1.50-1.55	4.00-14.00	0.08-0.14	0.0-2.9	0.0-0.4	.10	.20			
3466: Littleailie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
Littleailie----	0-3	8-18	1.40-1.50	14.00-42.00	0.08-0.11	0.0-2.9	0.8-1.5	.20	.28	1	5	56
	3-8	15-25	1.35-1.45	4.00-14.00	0.08-0.13	0.0-2.9	0.3-0.5	.15	.28			
	8-19	4-18	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.4	.10	.28			
	19-41	---	---	0.00-0.01	---	---	---	---	---			
	41-62	3-10	1.50-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.3	.05	.24			
3580: Kyler-----	0-3	7-18	1.30-1.45	4.00-14.00	0.05-0.07	0.0-2.9	0.5-1.0	.15	.55	1	5	56
	3-11	7-18	1.25-1.45	4.00-14.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
3610: Threedogs-----	0-4	15-25	1.25-1.40	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37	5	4L	86
	4-12	18-24	1.30-1.40	1.40-4.00	0.14-0.16	3.0-5.9	0.3-0.5	.37	.37			
	12-35	27-35	1.25-1.35	0.42-1.40	0.17-0.19	3.0-5.9	0.0-0.2	.55	.55			
	35-60	22-32	1.30-1.40	0.42-1.40	0.14-0.18	3.0-5.9	0.0-0.1	.37	.37			
	60-71	15-30	1.40-1.55	1.40-4.00	0.13-0.17	3.0-5.9	0.0-0.1	.55	.55			
Slaw-----	0-5	15-25	1.20-1.35	1.40-4.00	0.19-0.21	0.0-2.9	0.2-0.8	.55	.55	5	4L	86
	5-60	25-35	1.35-1.50	0.42-1.40	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
3612: Littlespring----	0-5	8-15	1.50-1.60	14.00-42.00	0.06-0.10	0.0-2.9	0.3-0.6	.43	.49	5	3	86
	5-10	10-24	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.43	.49			
	10-27	27-35	1.55-1.65	0.42-1.40	0.15-0.18	3.0-5.9	0.0-0.1	.32	.37			
	27-75	2-5	1.55-1.75	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.1	.15	.32			
Bigspring-----	0-5	10-18	1.25-1.33	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.24	5	3	86
	5-12	14-19	1.30-1.40	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.24			
	12-35	25-32	1.50-1.60	1.40-4.00	0.13-0.20	3.0-5.9	0.5-1.0	.28	.37			
	35-58	30-45	1.40-1.50	0.42-1.40	0.14-0.21	3.0-8.9	0.0-0.2	.37	.37			
	58-80	32-45	1.30-1.40	0.42-1.40	0.14-0.21	3.0-8.9	0.0-0.2	.32	.32			

TABLE 9.--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					
3870: Newvil-----	0-3	10-20	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	1.0-2.0	.28	.43	1	2	134
	3-12	18-30	1.30-1.50	1.40-4.00	0.10-0.13	3.0-5.9	1.0-2.0	.24	.43			
	12-17	20-27	1.45-1.60	4.00-14.00	0.09-0.12	0.0-2.9	0.0-1.0	.28	.43			
	17-48	---	---	0.00-0.01	---	---	---	---	---			
	48-60	2-6	1.50-1.70	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			
Chuckmill-----	0-4	10-18	1.35-1.50	14.00-42.00	0.07-0.15	0.0-2.9	0.8-2.0	.15	.32	1	4L	86
	4-14	25-35	1.40-1.60	1.40-4.00	0.14-0.16	3.0-5.9	0.5-1.0	.15	.32			
	14-60	---	---	0.00-0.01	---	---	---	---	---			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
3871: Newvil-----	0-3	10-20	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	1.0-2.0	.28	.43	1	4	86
	3-12	18-30	1.30-1.50	1.40-4.00	0.10-0.13	3.0-5.9	1.0-2.0	.24	.43			
	12-17	20-27	1.45-1.60	4.00-14.00	0.09-0.12	0.0-2.9	0.0-1.0	.28	.43			
	17-48	---	---	0.00-0.01	---	---	---	---	---			
	48-60	2-6	1.50-1.70	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
3880: Nevu-----	0-5	10-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	1.0-3.0	.17	.32	2	3	86
	5-27	25-35	1.35-1.50	1.40-4.00	0.14-0.19	3.0-5.9	0.0-0.5	.15	.43			
	27-36	---	---	0.00-0.01	---	---	---	---	---			
	36-60	5-15	1.40-1.55	14.00-42.00	0.00-0.08	0.0-2.9	0.0-0.5	.15	.32			
Okayview-----	0-3	10-30	1.45-1.55	4.00-14.00	0.06-0.17	0.0-2.9	1.0-2.0	.15	.32	1	4	86
	3-11	18-27	1.20-1.40	4.00-12.00	0.18-0.22	0.0-2.9	1.0-2.0	.17	.24			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
3890: Anaud-----	0-10	15-20	1.25-1.45	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.10	.43	1	5	56
	10-16	20-35	1.35-1.55	1.40-4.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
3892: Slockey-----	0-4	14-25	1.30-1.50	14.00-42.00	0.09-0.15	0.0-2.9	2.0-4.0	.10	.20	2	6	48
	4-9	20-30	1.30-1.50	4.00-14.00	0.11-0.15	0.0-2.9	1.5-2.5	.10	.20			
	9-21	27-35	1.30-1.50	4.00-14.00	0.11-0.15	0.0-2.9	0.5-1.5	.10	.20			
	21-25	---	---	0.00-0.01	---	---	---	---	---			
Hamtah-----	0-10	24-32	1.10-1.20	1.00-10.00	0.07-0.15	3.0-5.9	2.0-6.0	.10	.24	5	6	48
	10-21	24-32	1.15-1.25	1.00-10.00	0.09-0.15	3.0-5.9	2.0-4.0	.15	.28			
	21-33	35-50	1.20-1.30	0.10-1.00	0.12-0.18	3.0-8.9	0.5-1.0	.10	.24			
	33-41	35-50	1.25-1.35	0.10-1.00	0.07-0.14	3.0-8.9	0.0-0.5	.10	.24			
	41-60	27-35	1.25-1.45	1.00-10.00	0.12-0.18	3.0-5.9	0.0-0.5	.15	.32			
Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	3	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
3894: Schoolmarm-----	0-3	8-18	1.40-1.60	14.00-42.00	0.12-0.16	0.0-2.9	1.0-2.0	.10	.20	1	3	86
	3-11	27-35	1.30-1.50	4.00-14.00	0.14-0.18	3.0-5.9	0.5-1.0	.10	.24			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			

TABLE 9.--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					
4001: Modem-----	0-4	6-18	1.04-1.40	14.00-42.00	0.07-0.10	0.0-2.9	1.0-3.0	.15	.37	1	4	86
	4-10	20-32	1.30-1.43	0.20-0.60	0.02-0.10	3.0-5.9	0.5-1.2	.10	.32			
	10-46	---	---	0.10-0.30	---	---	---	---	---			
	46-60	4-18	1.43-1.53	2.00-6.00	0.00-0.03	3.0-5.9	0.1-0.5	.10	.37			
Newvil-----	0-3	7-20	1.35-1.55	4.00-14.00	0.11-0.13	0.0-2.9	2.0-4.0	.20	.37	1	2	134
	3-17	18-30	1.35-1.55	1.40-4.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.32			
	17-48	---	---	0.01-0.42	---	---	---	---	---			
	48-60	2-6	1.50-1.70	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			
Sevenmile-----	0-11	8-18	1.25-1.45	14.00-42.00	0.10-0.20	0.0-2.9	1.0-3.0	.17	.24	4	2	134
	11-35	8-18	1.30-1.50	14.00-42.00	0.15-0.25	0.0-2.9	1.0-2.0	.28	.37			
	35-60	8-18	1.35-1.50	14.00-42.00	0.10-0.20	0.0-2.9	0.0-0.6	.17	.28			
4002: Jarab-----	0-4	7-20	1.35-1.55	4.00-14.00	0.11-0.13	0.0-2.9	2.0-4.0	.20	.37	1	5	56
	4-13	20-35	1.35-1.55	1.40-4.00	0.09-0.12	0.0-2.9	1.0-2.0	.10	.32			
	13-60	---	---	0.01-0.42	---	---	---	---	---			
Ravendog-----	0-5	8-15	1.30-1.50	14.00-42.00	0.08-0.15	0.0-2.9	1.0-2.0	.37	.43	5	4L	86
	5-16	8-18	1.30-1.50	14.00-42.00	0.08-0.15	0.0-2.9	0.8-1.5	.37	.49			
	16-60	8-18	1.40-1.60	14.00-42.00	0.08-0.17	0.0-2.9	0.3-0.5	.24	.37			
4011: Radol-----	0-2	10-25	1.04-1.29	4.00-14.00	0.06-0.12	3.0-5.9	1.3-3.0	.20	.43	1	4L	86
	2-15	18-27	1.04-1.35	4.00-14.00	0.06-0.11	3.0-5.9	1.0-3.0	.10	.43			
	15-19	---	---	0.00-0.01	---	---	---	---	---			
Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
4013: Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
4014: Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Eaglepass-----	0-2	4-18	1.20-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-6	8-18	1.20-1.40	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.32			
	6-10	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
4015: Buzztail-----	0-4	7-18	1.10-1.25	4.00-14.00	0.05-0.12	0.0-2.9	2.0-4.0	.15	.43	1	6	48
	4-19	7-18	1.10-1.30	4.00-14.00	0.05-0.09	0.0-2.9	2.0-4.0	.10	.32			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
Lodar-----	0-8	12-27	1.04-1.43	4.00-14.00	0.07-0.14	0.0-2.9	1.0-3.0	.10	.37	1	4L	86
	8-16	18-27	1.43-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.43			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Buzztail-----	0-4	7-18	1.10-1.25	4.00-14.00	0.05-0.12	0.0-2.9	2.0-4.0	.15	.43	1	6	48
	4-19	7-18	1.10-1.30	4.00-14.00	0.05-0.09	0.0-2.9	2.0-4.0	.10	.32			
	19-23	---	---	0.00-0.01	---	---	---	---	---			
4017: Amtoft-----	0-3	12-16	1.60-1.70	1.00-10.00	0.07-0.11	0.0-2.9	0.6-0.7	.10	.37	1	4L	86
	3-11	14-27	1.70-1.80	1.00-10.00	0.06-0.11	0.0-2.9	0.5-0.6	.05	.37			
	11-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 9.--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					
4018: Eoj-----	0-6 6-60	20-27 40-60	1.30-1.50 1.25-1.45	4.00-14.00 0.01-0.42	0.09-0.17 0.10-0.17	0.0-2.9 6.0-8.9	1.0-3.0 1.0-2.0	.37 .32	.55 .49	3	8	0
Schoolmarm-----	0-3 3-11 11-15	8-18 27-35 ---	1.40-1.60 1.30-1.50 ---	14.00-42.00 4.00-14.00 0.00-0.01	0.12-0.16 0.14-0.18 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.10 .10 ---	.20 .24 ---	1	3	86
McIvey-----	0-12 12-16 16-31 31-60	12-27 20-30 30-50 30-50	1.05-1.20 1.15-1.35 1.25-1.45 1.25-1.40	4.00-14.00 4.00-14.00 1.40-4.00 0.01-0.42	0.12-0.15 0.10-0.12 0.12-0.17 0.07-0.10	3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	2.0-5.0 1.0-2.0 0.5-1.0 0.5-1.0	.15 .15 .10 .05	.43 .37 .43 .37	5	7	38
4020: Schoolmarm-----	0-3 3-11 11-15	8-18 27-35 ---	1.40-1.60 1.30-1.50 ---	14.00-42.00 4.00-14.00 0.00-0.01	0.12-0.16 0.14-0.18 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.10 .10 ---	.20 .24 ---	1	3	86
Farepeak-----	0-3 3-13 13-17	18-30 27-35 ---	1.20-1.50 1.20-1.50 ---	4.00-14.00 4.00-14.00 0.00-0.01	0.09-0.15 0.11-0.15 ---	0.0-2.9 0.0-2.9 ---	3.0-8.0 2.0-4.0 ---	.10 .05 ---	.32 .15 ---	1	5	56
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
4022: Schoolmarm-----	0-3 3-11 11-15	8-18 27-35 ---	1.40-1.60 1.30-1.50 ---	14.00-42.00 4.00-14.00 0.00-0.01	0.12-0.16 0.14-0.18 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.10 .10 ---	.20 .24 ---	1	3	86
Slockey-----	0-4 4-9 9-21 21-25	14-25 20-30 27-35 ---	1.30-1.50 1.30-1.50 1.30-1.50 ---	14.00-42.00 4.00-14.00 4.00-14.00 0.00-0.01	0.09-0.15 0.11-0.15 0.11-0.15 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	2.0-4.0 1.5-2.5 0.5-1.5 ---	.10 .10 .10 ---	.20 .20 .20 ---	2	6	48
Schoolmarm-----	0-3 3-11 11-15	8-18 27-35 ---	1.40-1.60 1.30-1.50 ---	14.00-42.00 4.00-14.00 0.00-0.01	0.12-0.16 0.14-0.18 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.10 .10 ---	.20 .24 ---	1	3	86
4024: Slockey-----	0-4 4-9 9-21 21-25	14-25 20-30 27-35 ---	1.30-1.50 1.30-1.50 1.30-1.50 ---	14.00-42.00 4.00-14.00 4.00-14.00 0.00-0.01	0.09-0.15 0.11-0.15 0.11-0.15 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	2.0-4.0 1.5-2.5 0.5-1.5 ---	.10 .10 .10 ---	.20 .20 .20 ---	2	6	48
Schoolmarm-----	0-3 3-11 11-15	8-18 27-35 ---	1.40-1.60 1.30-1.50 ---	14.00-42.00 4.00-14.00 0.00-0.01	0.12-0.16 0.14-0.18 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.10 .10 ---	.20 .24 ---	1	3	86
Schoolmarm-----	0-3 3-11 11-15	8-18 27-35 ---	1.40-1.60 1.30-1.50 ---	14.00-42.00 4.00-14.00 0.00-0.01	0.12-0.16 0.14-0.18 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.10 .10 ---	.20 .24 ---	1	3	86
4030: Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
Starflyer-----	0-3 3-18 18-22	6-18 27-35 ---	1.48-1.57 1.48-1.52 ---	4.00-14.00 1.40-4.00 0.00-0.06	0.13-0.15 0.13-0.15 ---	0.0-2.9 3.0-5.9 ---	2.0-4.0 2.0-4.0 ---	.05 .10 ---	.20 .37 ---	2	4	86
4032: Zafod-----	0-7 7-16 16-24 24-34 34-60	5-20 5-15 5-15 --- 2-15	1.35-1.55 1.25-1.45 1.40-1.60 --- 1.55-1.75	4.00-14.00 14.00-42.00 42.00-141.00 0.01-0.42 42.00-141.00	0.06-0.15 0.09-0.11 0.06-0.09 --- 0.08-0.11	0.0-2.9 0.0-2.9 0.0-2.9 --- 0.0-2.9	1.0-2.0 0.6-1.0 0.0-0.5 --- 0.0-0.5	.10 .10 .05 --- .05	.20 .28 .28 --- .20	3	4	86
Sevenmile-----	0-11 11-35 35-60	8-18 8-18 8-18	1.25-1.45 1.30-1.50 1.35-1.50	14.00-42.00 14.00-42.00 14.00-42.00	0.10-0.20 0.15-0.25 0.10-0.20	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 1.0-2.0 0.0-0.6	.17 .28 .17	.24 .37 .28	4	2	134

TABLE 9.--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					
4035:												
Highup-----	0-5	12-18	1.05-1.20	4.00-14.00	0.07-0.12	0.0-2.9	2.0-4.0	.10	.37	2	8	0
	5-16	12-18	1.10-1.30	4.00-14.00	0.07-0.13	0.0-2.9	1.0-3.0	.15	.49			
	16-33	12-18	1.10-1.30	4.00-14.00	0.07-0.12	0.0-2.9	0.9-1.5	.10	.43			
	33-37	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop----	---	---	---	---	---	---	---	---	---	-	---	---
Eganroc-----	0-9	18-27	1.25-1.45	4.00-14.00	0.06-0.08	0.0-2.9	2.0-4.0	.15	.43	2	8	0
	9-34	16-27	1.40-1.60	4.00-14.00	0.03-0.06	0.0-2.9	0.8-2.0	.10	.43			
	34-38	---	---	0.00-0.01	---	---	---	---	---			
4040:												
Farepeak-----	0-3	18-30	1.20-1.50	4.00-14.00	0.09-0.15	0.0-2.9	3.0-8.0	.10	.32	1	8	0
	3-13	27-35	1.20-1.50	4.00-14.00	0.11-0.15	0.0-2.9	2.0-4.0	.05	.15			
	13-17	---	---	0.00-0.01	---	---	---	---	---			
Hamtah-----	0-10	24-32	1.10-1.20	1.00-10.00	0.07-0.15	3.0-5.9	2.0-6.0	.10	.24	5	6	48
	10-21	24-32	1.15-1.25	1.00-10.00	0.09-0.15	3.0-5.9	2.0-4.0	.15	.28			
	21-33	35-50	1.20-1.30	0.10-1.00	0.12-0.18	3.0-8.9	0.5-1.0	.10	.24			
	33-41	35-50	1.25-1.35	0.10-1.00	0.07-0.14	3.0-8.9	0.0-0.5	.10	.24			
	41-60	27-35	1.25-1.45	1.00-10.00	0.12-0.18	3.0-5.9	0.0-0.5	.15	.32			
Starflyer-----	0-3	6-18	1.48-1.57	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.05	.20	2	4	86
	3-18	27-35	1.48-1.52	1.40-4.00	0.13-0.15	3.0-5.9	2.0-4.0	.10	.37			
	18-22	---	---	0.00-0.06	---	---	---	---	---			
5021:												
Atlanta-----	0-10	5-18	1.35-1.50	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	10-60	8-18	1.35-1.50	14.00-42.00	0.07-0.12	0.0-2.9	0.0-1.0	.17	.32			
Escalante-----	0-3	10-18	1.30-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32	5	4	86
	3-27	10-18	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.28	.32			
	27-60	5-18	1.35-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.5-1.0	.10	.17			

TABLE 10--CHEMICAL SOIL PROPERTIES

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
1001:								
Eastmore-----	0-3	5.0-15	---	7.4-9.6	5-10	0	0	1-5
	3-17	5.0-20	---	7.4-9.6	10-20	0	0.0-2.0	13-30
	17-49	---	---	---	---	---	---	---
	49-65	5.0-15	---	7.4-9.6	5-10	0	0.0-2.0	13-30
Armespan-----	0-3	5.0-15	---	7.9-9.0	0-10	0	0.0-2.0	1-5
	3-11	5.0-15	---	7.9-9.0	10-35	0	2.0-4.0	1-5
	11-22	5.0-15	---	7.9-9.0	10-35	0	4.0-8.0	1-5
	22-60	0.0-10	---	7.9-9.0	10-35	0	2.0-4.0	1-5
Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-8	5.0-15	---	7.9-9.6	40-60	0	0.0-4.0	1-5
	8-16	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	16-60	---	---	---	---	---	---	---
1003:								
Eastmore-----	0-3	5.0-15	---	7.4-9.6	5-10	0	0	1-5
	3-17	5.0-20	---	7.4-9.6	10-20	0	0.0-2.0	13-30
	17-49	---	---	---	---	---	---	---
	49-65	5.0-15	---	7.4-9.6	5-10	0	0.0-2.0	13-30
Eastmore-----	0-3	5.0-15	---	7.4-9.6	5-10	0	0	1-5
	3-17	5.0-20	---	7.4-9.6	10-20	0	0.0-2.0	13-30
	17-49	---	---	---	---	---	---	---
	49-65	5.0-15	---	7.4-9.6	5-10	0	0.0-2.0	13-30
Escalante-----	0-3	15-20	---	7.4-9.0	1-5	0	0.0-4.0	1-5
	3-27	15-20	---	7.9-9.6	15-40	0	0.0-4.0	0
	27-60	10-15	---	7.9-9.6	5-30	0	0.0-4.0	1-5
1010:								
Armespan-----	0-3	5.0-15	---	7.9-9.0	0-10	0	0.0-2.0	1-5
	3-11	5.0-15	---	7.9-9.0	10-35	0	2.0-4.0	1-5
	11-22	5.0-15	---	7.9-9.0	10-35	0	4.0-8.0	1-5
	22-60	0.0-10	---	7.9-9.0	10-35	0	2.0-4.0	1-5
Escalante-----	0-3	15-20	---	7.4-9.0	1-5	0	0.0-4.0	1-5
	3-27	15-20	---	7.9-9.6	15-40	0	0.0-4.0	0
	27-60	10-15	---	7.9-9.6	5-30	0	0.0-4.0	1-5
1011:								
Armespan-----	0-3	5.0-15	---	7.9-9.0	0-10	0	0.0-2.0	1-5
	3-11	5.0-15	---	7.9-9.0	10-35	0	2.0-4.0	1-5
	11-22	5.0-15	---	7.9-9.0	10-35	0	4.0-8.0	1-5
	22-60	0.0-10	---	7.9-9.0	10-35	0	2.0-4.0	1-5
1020:								
Geer-----	0-12	5.0-15	---	7.9-9.0	1-10	0	0.0-2.0	0-5
	12-65	5.0-15	---	7.9-9.6	5-15	0	2.0-4.0	1-5
Slaw-----	0-13	5.0-15	---	8.5-9.6	1-4	0	16.0-32.0	13-30
	13-60	20-25	---	8.5-9.6	1-4	0-5	0.0-32.0	13-30
1021:								
Geer-----	0-12	5.0-15	---	7.9-9.0	1-10	0	0.0-2.0	0-5
	12-65	5.0-15	---	7.9-9.6	5-15	0	2.0-4.0	1-5
Penoyer-----	0-8	5.0-10	---	7.9-9.0	10-30	0	0.0-4.0	0-12
	8-60	5.0-10	---	7.9-9.6	10-30	0-5	0.0-4.0	0-12
1022:								
Cliffdown-----	0-4	5.0-10	---	7.9-9.0	15-40	0	0.0-2.0	0-5
	4-60	5.0-10	---	7.9-9.0	15-40	0	0.0-8.0	1-12
Geer-----	0-12	5.0-15	---	7.9-9.0	1-10	0	0.0-2.0	0-5
	12-65	5.0-15	---	7.9-9.6	5-15	0	2.0-4.0	1-5

TABLE 10--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	
1050: Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-8	5.0-15	---	7.9-9.6	40-60	0	0.0-4.0	1-5
	8-16	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	16-60	---	---	---	---	---	---	---
Escalante-----	0-3	15-20	---	7.4-9.0	1-5	0	0.0-4.0	1-5
	3-27	15-20	---	7.9-9.6	15-40	0	0.0-4.0	0
	27-60	10-15	---	7.9-9.6	5-30	0	0.0-4.0	1-5
Lien-----	0-3	10-25	---	7.9-9.6	5-20	0	2.0-4.0	1-5
	3-8	5.0-20	---	7.9-9.6	5-20	0	2.0-8.0	1-5
	8-24	---	---	---	---	---	---	---
	24-60	2.6-6.1	---	7.9-9.6	5-20	0	2.0-8.0	1-5
1053: Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-8	5.0-15	---	7.9-9.6	40-60	0	0.0-4.0	1-5
	8-16	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	16-60	---	---	---	---	---	---	---
Mezzer-----	0-3	7.0-15	---	7.9-9.0	20-30	0	2.0-4.0	0-5
	3-10	5.0-14	---	7.9-9.0	20-30	0	2.0-4.0	0-13
	10-46	5.0-14	---	7.9-9.0	20-30	0	4.0-8.0	5-13
	46-60	5.0-10	---	7.9-9.0	20-30	0	4.0-8.0	0-13
Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-8	5.0-15	---	7.9-9.6	40-60	0	0.0-4.0	1-5
	8-16	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	16-60	---	---	---	---	---	---	---
1060: Gravier-----	0-4	10-20	---	7.9-9.0	5-10	0	0.0-4.0	1-5
	4-41	5.0-15	---	7.9-9.0	15-30	0	4.0-8.0	13-30
	41-65	5.0-10	---	7.9-9.0	5-25	0	0.0-4.0	13-30
Geer-----	0-12	5.0-15	---	7.9-9.0	1-10	0	0.0-2.0	0-5
	12-65	5.0-15	---	7.9-9.6	5-15	0	2.0-4.0	1-5
1071: Koyen-----	0-3	0.0-4.0	---	7.9-9.0	0	0	0.0-2.0	0-5
	3-17	5.0-15	---	7.9-9.0	0-15	0	0.0-2.0	0-5
	17-44	5.0-15	---	7.9-9.0	10-30	0	0.0-4.0	1-12
	44-60	0.0-8.0	---	7.9-9.0	10-30	0-1	0.0-4.0	1-12
1073: Koyen-----	0-4	0.0-4.0	---	7.9-9.0	0	0	0.0-2.0	0-5
	4-15	5.0-15	---	7.9-9.0	0-15	0	0.0-2.0	0-5
	15-60	5.0-15	---	7.9-9.0	10-30	0	0.0-4.0	1-12
Colval-----	0-5	15-25	---	7.9-9.6	15-30	0-2	4.0-8.0	5-12
	5-11	20-30	---	7.9-9.6	20-30	0-2	4.0-8.0	5-12
	11-23	25-30	---	7.9-9.6	25-40	0-2	4.0-8.0	5-12
	23-60	15-25	---	8.5-9.6	20-35	0-2	4.0-8.0	5-12
1074: Koyen-----	0-4	0.0-4.0	---	7.9-9.0	0	0	0.0-2.0	0-5
	4-15	5.0-15	---	7.9-9.0	0-15	0	0.0-2.0	0-5
	15-60	5.0-15	---	7.9-9.0	10-30	0	0.0-4.0	1-12
Slaw-----	0-13	5.0-15	---	8.5-9.6	1-4	0	16.0-32.0	13-30
	13-60	20-25	---	8.5-9.6	1-4	0-5	0.0-32.0	13-30
Penoyer-----	0-8	5.0-10	---	7.9-9.0	10-30	0	0.0-4.0	0-12
	8-60	5.0-10	---	7.9-9.6	10-30	0-5	0.0-4.0	0-12
1075: Koyen-----	0-4	3.0-15	---	7.9-9.0	0	0	0.0-2.0	0-5
	4-15	5.0-15	---	7.9-9.0	0-15	0	0.0-2.0	0-5
	15-60	5.0-15	---	7.9-9.0	10-30	0	0.0-4.0	1-12

TABLE 10--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	
Eaglepass-----	0-2	4.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-6	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	6-10	---	---	---	---	---	---	---
Monarch-----	0-8	8.0-15	---	7.9-8.4	5-15	0	0.0-2.0	0
	8-15	7.0-12	---	7.9-9.0	20-35	0	0.0-2.0	0
	15-19	---	---	---	---	---	---	---
1090:								
Kyler-----	0-3	5.0-10	---	7.9-9.6	30-40	0	0.0-2.0	0
	3-11	5.0-10	---	7.9-9.6	30-40	0	0.0-2.0	0
	11-15	---	---	---	---	---	---	---
Eaglepass-----	0-2	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-6	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	6-10	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1091:								
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-10	---	7.9-9.6	30-40	0	0.0-2.0	0
	11-15	---	---	---	---	---	---	---
Eaglepass-----	0-2	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-6	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	6-10	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1093:								
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-10	---	7.9-9.6	30-40	0	0.0-2.0	0
	11-15	---	---	---	---	---	---	---
Logring-----	0-3	5.0-20	---	7.4-9.0	15-40	0	0.0-4.0	0-5
	3-10	5.0-20	---	7.4-9.0	15-40	0	0.0-4.0	0-5
	10-14	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1095:								
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
Amtoft-----	0-3	10-15	---	7.4-9.0	10-70	---	0.0-2.0	0
	3-11	10-20	---	7.9-9.0	20-80	---	0.0-2.0	0
	11-15	---	---	---	---	---	---	0
1096:								
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
Lodar-----	0-8	12-29	---	7.4-8.4	25-35	0-5	0.0-2.0	0
	8-16	14-22	---	7.9-9.0	30-40	0-5	0.0-2.0	0
	16-20	---	---	---	---	---	---	---
1100:								
Linoyer-----	0-11	5.0-20	---	7.9-9.0	5-20	0	0.0-2.0	0
	11-60	5.0-15	---	7.9-9.0	10-40	0	0.0-2.0	0
Heist-----	0-8	15-20	---	6.6-8.4	1-5	0	0.0-4.0	1-5
	8-20	15-20	---	7.4-9.0	1-5	0	0.0-4.0	0
	20-60	10-15	---	7.4-9.0	1-5	0	0.0-4.0	1-5

TABLE 10--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	
Rock outcrop-----	---	---	---	---	---	---	---	---
1172:								
Haunchee-----	0-7	10-25	---	7.4-8.4	10-20	0	0	0
	7-19	5.0-20	---	7.9-9.0	30-50	0	0.0-2.0	1-13
	19-23	---	---	---	---	---	---	---
Wardbay-----	0-18	25-35	---	7.4-8.4	25-40	0	0	0
	18-45	5.0-15	---	7.9-8.4	25-40	0	0	0
	45-55	---	---	---	---	---	---	---
Hardzem-----	0-1	5.0-15	---	7.4-7.8	0	0	0	0
	1-21	10-20	---	6.6-7.8	0	0	0	0
	21-52	---	---	---	---	---	---	---
	52-56	---	---	---	---	---	---	---
1180:								
Eoj-----	0-6	14-22	---	7.4-7.8	0	0	0	0
	6-60	34-52	---	7.4-8.4	0-2	0	0	0
Eoj-----	0-6	14-22	---	7.4-7.8	0	0	0	0
	6-60	34-52	---	7.4-8.4	0-2	0	0	0
McIvey-----	0-13	15-25	---	6.6-7.8	0	0	0	0
	13-18	15-20	---	6.6-7.8	0	0	0	0
	18-23	20-30	---	6.1-7.8	0	0	0	0
	23-62	25-35	---	6.1-7.8	0	0	0	0
	62-80	20-30	---	6.1-7.8	0	0	0	0
1190:								
Pookaloo-----	0-3	10-20	---	7.4-8.4	20-30	0	0	0
	3-14	10-20	---	7.4-8.4	30-50	0	0	0
	14-18	---	---	---	---	---	---	---
Cavehill-----	0-3	15-30	---	7.4-8.4	10-20	0-5	0	0
	3-10	8.0-25	---	7.9-8.4	20-40	0-5	0	0
	10-27	5.0-25	---	7.9-9.0	50-80	0-5	0.0-2.0	0
	27-31	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1200:								
Urmafot-----	0-10	15-25	---	7.9-8.4	10-30	0	0	0
	10-20	10-20	---	7.9-8.4	20-40	0	0	0
	20-39	---	---	---	---	---	---	---
	39-60	5.0-15	---	7.9-8.4	20-40	0	0.0-2.0	0
Bobs-----	0-3	10-20	---	7.9-9.0	20-35	0	0	0
	3-14	8.0-18	---	7.9-9.0	35-45	0	0.0-2.0	1-5
	14-20	---	---	---	---	---	---	---
Palinor-----	0-10	5.0-15	---	7.9-9.0	15-25	0	0	1-5
	10-18	5.0-10	---	7.9-9.0	20-40	0	2.0-4.0	1-5
	18-30	---	---	---	---	---	---	---
	30-60	0.0-5.0	---	7.9-9.0	25-45	0	0	1-12
1210:								
Palinor-----	0-10	5.0-15	---	7.9-9.0	15-25	0	0	1-5
	10-18	5.0-10	---	7.9-9.0	20-40	0	2.0-4.0	1-5
	18-30	---	---	---	---	---	---	---
	30-60	0.0-5.0	---	7.9-9.0	25-45	0	0	1-12
1211:								
Palinor-----	0-3	5.0-15	---	7.9-9.0	15-25	0	0	1-5
	3-16	5.0-10	---	7.9-9.0	20-40	0	2.0-4.0	1-5
	16-35	---	---	---	---	---	---	---
	35-60	0.0-5.0	---	7.9-9.0	25-45	0	0	1-12

TABLE 10--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	
Urmafot-----	0-10	15-25	---	7.9-8.4	10-30	0	0	0
	10-20	10-20	---	7.9-8.4	20-40	0	0	0
	20-39	---	---	---	---	---	---	---
	39-60	5.0-15	---	7.9-8.4	20-40	0	0.0-2.0	0
Urmafot-----	0-10	15-25	---	7.9-8.4	10-30	0	0	0
	10-20	10-20	---	7.9-8.4	20-40	0	0	0
	20-39	---	---	7.9-8.4	---	---	---	---
	39-60	5.0-15	---	7.9-8.4	20-40	0	0.0-2.0	0
1212: Palinor-----	0-10	5.0-15	---	7.9-9.0	15-25	0	0	1-5
	10-18	5.0-10	---	7.9-9.0	20-40	0	2.0-4.0	1-5
	18-30	---	---	---	---	---	---	---
	30-60	0.0-5.0	---	7.9-9.0	25-45	0	0	1-12
Yody-----	0-4	4.0-10	---	7.9-8.4	0	0	0.0-2.0	0-5
	4-30	13-23	---	7.9-8.4	1-5	0	2.0-4.0	1-12
	30-36	3.0-7.0	---	7.9-9.0	5-10	0	2.0-4.0	1-12
	36-60	---	---	---	---	---	---	---
Broland-----	0-3	8.0-19	---	7.9-8.4	0	0	0.0-2.0	0
	3-9	16-34	---	7.9-8.4	0	0	0.0-2.0	0
	9-16	12-23	---	7.9-8.4	1-2	0	0.0-2.0	1-5
	16-19	6.0-12	---	7.9-8.4	2-3	0	0.0-2.0	1-5
	19-40	---	---	---	---	---	---	---
	40-60	0.0-3.0	---	7.9-8.4	2-5	0	0.0-2.0	1-5
1215: Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-8	5.0-15	---	7.9-9.6	40-60	0	0.0-4.0	1-5
	8-16	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	16-60	---	---	---	---	---	---	---
Jarab-----	0-4	10-25	---	7.4-9.0	5-15	0	0.0-2.0	0-5
	4-13	15-35	---	7.4-9.0	5-15	0	0.0-2.0	0-5
	13-60	---	---	---	---	---	---	---
1220: Lien-----	0-3	5.0-20	---	7.9-9.6	5-20	0	2.0-4.0	1-5
	3-8	5.0-20	---	7.9-9.6	5-20	0	2.0-8.0	1-5
	8-24	---	---	---	---	---	---	---
	24-60	2.6-6.1	---	7.9-9.6	5-20	0	2.0-8.0	1-5
Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5
1230: Yotes-----	0-12	5.0-15	---	6.6-8.4	0-5	0	0	0
	12-21	5.0-15	---	7.9-9.0	1-5	0	0	0
	21-60	5.0-15	---	7.9-9.0	1-5	0	0.0-4.0	5-12
Sevenmile-----	0-11	10-20	---	6.6-8.4	0	0	0	0
	11-35	6.0-20	---	6.6-8.4	0	0	0	0
	35-60	5.0-15	---	7.4-8.4	0-3	0	0.0-2.0	0-5
1231: Newvil-----	0-3	10-20	---	7.4-7.8	0	0	0	0
	3-12	20-30	---	6.6-8.4	0-5	0	0	0
	12-17	15-25	---	7.9-9.0	1-5	0	0.0-2.0	0-5
	17-48	---	---	---	---	---	---	---
	48-60	2.0-5.0	---	8.5-9.0	0-5	0	0.0-4.0	0-5
Nevu-----	0-5	10-20	---	6.6-8.4	0-1	0	0	0
	5-27	15-25	---	7.9-9.0	1-10	0	0.0-2.0	0-5
	27-36	---	---	---	---	---	---	---
	36-60	3.0-10	---	7.9-9.0	5-10	0	0.0-4.0	0-5

TABLE 10--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	
Cropper-----	0-4	10-20	---	6.6-7.8	0	0	0	0
	4-15	20-30	---	6.6-7.8	0	0	0	0
	15-20	---	---	---	---	---	---	---
1307: Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-10	---	7.9-9.6	30-40	0	0.0-2.0	0
	11-15	---	---	---	---	---	---	---
Amtoft-----	0-3	10-20	---	7.9-9.0	10-70	---	0.0-2.0	0
	3-11	10-20	---	7.9-9.0	20-80	---	0.0-2.0	0
	11-15	---	---	---	---	---	---	0
Eaglepass-----	0-2	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-6	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	6-10	---	---	---	---	---	---	---
1310: Duffer-----	0-11	10-20	---	7.9-9.6	20-40	0-2	4.0-32.0	13-90
	11-48	10-20	---	7.9-9.6	40-60	1-5	8.0-32.0	13-90
	48-66	5.0-20	---	7.9-9.6	20-60	1-2	4.0-32.0	13-30
Duffer-----	0-11	10-20	---	7.9-9.6	20-40	0-2	4.0-32.0	13-90
	11-48	10-20	---	7.9-9.6	40-60	1-5	8.0-32.0	13-90
	48-66	5.0-20	---	7.9-9.6	20-60	1-2	4.0-32.0	13-30
Kolda-----	0-6	15-30	---	7.9-9.6	1-10	0	4.0-8.0	0
	6-22	15-30	---	8.5-9.6	1-15	0	4.0-8.0	0
	22-60	25-40	---	8.5-9.6	5-40	0	4.0-8.0	1-12
1320: Broland-----	0-3	8.0-19	---	7.9-8.4	0	0	0.0-2.0	0
	3-9	16-34	---	7.9-8.4	0	0	0.0-2.0	0
	9-16	12-23	---	7.9-8.4	1-2	0	0.0-2.0	1-5
	16-19	6.0-12	---	7.9-8.4	2-3	0	0.0-2.0	1-5
	19-40	---	---	---	---	---	---	---
	40-60	0.0-3.0	---	7.9-8.4	2-5	0	0.0-2.0	1-5
Yody-----	0-4	4.0-10	---	7.9-8.4	0	0	0.0-2.0	0-5
	4-30	13-23	---	7.9-8.4	1-5	0	2.0-4.0	1-12
	30-36	3.0-7.0	---	7.9-9.0	5-10	0	2.0-4.0	1-12
	36-60	---	---	---	---	---	---	---
1330: Amelar-----	0-6	15-24	---	7.4-8.4	0-2	0	0	0
	6-15	18-25	---	7.9-8.4	0-5	0	0	0
	15-60	11-18	---	7.9-9.0	5-10	0	0	0
Eoj-----	0-6	14-22	---	7.4-7.8	0	0	0	0
	6-60	34-52	---	7.4-8.4	0-2	0	0	0
Hardol-----	0-8	10-25	---	7.4-8.4	1-10	0	0	0
	8-33	10-25	---	7.4-8.4	4-20	0	0	0
	33-60	10-20	---	7.9-8.4	15-25	0	0	0
1340: Heist-----	0-8	15-20	---	6.6-8.4	1-5	0	0.0-4.0	1-5
	8-20	15-20	---	7.4-9.0	1-5	0	0.0-4.0	0
	20-60	10-15	---	7.4-9.0	1-5	0	0.0-4.0	1-5
Heist-----	0-8	15-20	---	6.6-8.4	1-5	0	0.0-4.0	1-5
	8-20	15-20	---	7.4-9.0	1-5	0	0.0-4.0	0
	20-60	10-15	---	7.4-9.0	1-5	0	0.0-4.0	1-5
1350: Heist-----	0-8	15-20	---	6.6-8.4	1-5	0	0.0-4.0	1-5
	8-20	15-20	---	7.4-9.0	1-5	0	0.0-4.0	0
	20-60	10-15	---	7.4-9.0	1-5	0	0.0-4.0	1-5

TABLE 10--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	
1501: Radol-----	0-2	9.6-24	---	7.9-9.0	5-20	1-5	0.0-4.0	0-3
	2-15	15-25	---	7.9-9.0	20-40	1-5	2.0-4.0	0-3
	15-19	---	---	---	---	---	---	---
Monarch-----	0-8	8.0-15	---	7.9-8.4	5-15	0	0.0-2.0	0
	8-15	7.0-12	---	7.9-9.0	20-35	0	0.0-2.0	0
	15-19	---	---	---	---	---	---	---
Highup-----	0-5	14-22	---	8.5-9.0	20-35	0-1	0	0
	5-16	12-20	---	7.9-9.0	20-35	0-1	0	0
	16-33	11-18	---	7.9-9.0	20-35	0-1	0	0
	33-37	---	---	---	---	---	---	---
1502: Lodar-----	0-8	12-29	---	7.4-8.4	25-35	0-5	0.0-2.0	0
	8-16	14-22	---	7.9-9.0	30-40	0-5	0.0-2.0	0
	16-20	---	---	---	---	---	---	---
Logring-----	0-3	5.0-20	---	7.4-9.0	15-40	0-5	0.0-4.0	0-5
	3-10	5.0-20	---	7.4-9.0	15-40	0-5	0.0-4.0	0-5
	10-14	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1510: Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-8	5.0-15	---	7.9-9.6	40-60	0	0.0-4.0	1-5
	8-16	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	16-60	---	---	---	---	---	---	---
Jarab-----	0-4	10-25	---	7.4-9.0	5-15	0	0.0-2.0	0-5
	4-13	15-35	---	7.4-9.0	5-15	0	0.0-2.0	0-5
	13-60	---	---	---	---	---	---	---
Pamsdel-----	0-10	50-75	---	6.6-8.4	5-15	0	0.0-1.9	0
	10-19	50-75	---	7.9-9.0	25-35	0	0.0-1.9	0
	19-53	---	---	---	---	---	---	---
	53-62	---	---	---	---	---	---	---
1525: Ubehebe-----	0-7	5.0-15	---	7.4-8.4	0-1	0	0.0-4.0	0-2
	7-12	10-20	---	7.4-8.4	1-10	0	0.0-4.0	0-2
	12-19	10-25	---	7.4-8.4	10-20	0	0.0-4.0	0-2
	19-29	---	---	---	---	---	---	---
Penelas-----	0-5	5.0-20	---	7.4-9.0	0-5	0	0.0-2.0	0-5
	5-13	15-30	---	7.4-9.0	0-5	0	0.0-2.0	0-5
	13-18	---	---	---	---	---	---	---
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
1700: Garfan-----	0-8	13-20	---	7.4-7.8	0	0	0	0
	8-27	28-38	---	6.6-8.4	0	0	0	0
	27-60	28-36	---	6.6-8.4	0	0	0	0
Garfan-----	0-8	13-20	---	7.4-7.8	0	0	0	0
	8-27	28-38	---	6.6-8.4	0	0	0	0
	27-60	28-36	---	6.6-8.4	0	0	0	0
McIvey-----	0-12	15-25	---	6.6-7.8	0	0	0	0
	12-16	15-20	---	6.6-7.8	0	0	0	0
	16-31	20-30	---	6.1-7.8	0	0	0	0
	31-60	25-35	---	6.1-7.8	0	0	0	0

TABLE 10--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	
1946:								
Chubard-----	0-4	8.6-15	---	6.6-7.8	0-3	0	0.0-2.0	0
	4-7	15-23	---	6.6-7.8	0-3	0	0.0-2.0	0
	7-10	13-25	---	7.4-8.4	2-15	0	0.0-2.0	0
	10-14	---	---	---	---	---	---	---
Chubard-----	0-4	8.6-15	---	6.6-7.8	0-3	0	0.0-2.0	0
	4-7	15-23	---	6.6-7.8	0-3	0	0.0-2.0	0
	7-10	13-25	---	7.4-8.4	2-15	0	0.0-2.0	0
	10-14	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1948:								
Farepeak-----	0-3	18-32	---	6.6-7.3	0	0	0	0
	3-13	25-36	---	7.4-8.4	0-1	0	0	0
	13-17	---	---	---	---	---	---	---
Schoolmarm-----	0-3	12-18	---	6.6-7.3	0	0	0	0
	3-11	28-32	---	6.6-7.3	0	0	0	0
	11-15	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1949:								
Richinde-----	0-5	7.2-15	---	6.6-7.8	0-5	0	0.0-0.4	0
	5-18	21-27	---	6.6-8.4	0-5	0	0.0-0.4	0
	18-22	---	---	---	---	---	---	---
Chubard-----	0-4	8.6-15	---	6.6-7.8	0-3	0	0.0-2.0	0
	4-7	15-23	---	6.6-7.8	0-3	0	0.0-2.0	0
	7-10	13-25	---	7.4-8.4	2-15	0	0.0-2.0	0
	10-14	---	---	---	---	---	---	---
Chubard-----	0-4	8.6-15	---	6.6-7.8	0-3	0	0.0-2.0	0
	4-7	15-23	---	6.6-7.8	0-3	0	0.0-2.0	0
	7-10	13-25	---	7.4-8.4	2-15	0	0.0-2.0	0
	10-14	---	---	---	---	---	---	---
1955:								
Treadwell-----	0-5	7.0-132	---	7.9-9.0	10-20	0	0	0
	5-8	6.6-14	---	8.5-9.6	10-20	0	0	0
	8-35	---	---	8.5-9.0	---	---	---	---
	35-60	2.1-3.5	---	8.5-11.0	0-7	0	0	0
Chuckridge-----	0-2	5.0-16	---	7.4-8.4	0-5	0	0.0-2.0	1-5
	2-11	15-30	---	7.4-9.0	1-10	0	0.0-2.0	1-5
	11-60	---	---	---	---	---	---	---
Handpah-----	0-2	10-20	---	7.4-8.4	0-5	0	0.0-2.0	0-2
	2-8	15-30	---	7.4-9.0	0-10	0	0.0-2.0	0-2
	8-14	2.0-15	---	7.4-9.0	10-20	0	0.0-2.0	0-2
	14-18	---	---	---	---	---	---	---
	18-60	---	---	---	---	---	---	---
1957:								
Malmesa-----	0-3	10-20	---	7.4-8.4	0-20	0	0.0-2.0	0-5
	3-12	15-30	---	7.4-8.4	0-20	0	0.0-2.0	0-5
	12-16	10-20	---	7.9-9.0	0-20	0	0.0-4.0	0-5
	16-17	---	---	---	---	---	---	---
	17-21	---	---	---	---	---	---	---
Nevoyer-----	0-4	10-16	---	7.4-9.0	0-1	0	0	0
	4-17	8.9-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	17-18	---	---	---	---	---	---	---
	18-22	---	---	---	---	---	---	---
Treadwell-----	0-5	7.0-132	---	7.9-9.0	10-20	0	0	0
	5-8	6.6-14	---	8.5-9.6	10-20	0	0	0
	8-35	---	---	8.5-9.0	---	---	---	---
	35-60	2.1-3.5	---	8.5-11.0	0-7	0	0	0

TABLE 10--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	
1958:								
Nevoyer-----	0-4	10-16	---	7.4-9.0	0-1	0	0	0
	4-17	8.9-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	17-18	---	---	---	---	---	---	---
	18-22	---	---	---	---	---	---	---
Lomoin-----	0-3	5.0-15	---	7.4-8.4	1-5	0	0.0-2.0	0
	3-4	5.0-15	---	7.4-8.4	1-5	0	0.0-2.0	0
	4-8	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1959:								
Rock outcrop-----	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---
Chubard-----	0-4	8.6-15	---	6.6-7.8	0-3	0	0.0-2.0	0
	4-7	15-23	---	6.6-7.8	0-3	0	0.0-2.0	0
	7-10	13-25	---	7.4-8.4	2-15	0	0.0-2.0	0
	10-14	---	---	---	---	---	---	---
1960:								
Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5
Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5
1989:								
Gabbvally-----	0-2	10-20	---	6.6-7.8	0	0	0.0-2.0	0-5
	2-11	15-25	---	6.6-7.8	0	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
1990:								
Richinde-----	0-5	7.2-15	---	6.6-7.8	0-5	0	0.0-0.4	0
	5-18	21-27	---	6.6-8.4	0-5	0	0.0-0.4	0
	18-22	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
2000:								
Playas-----	0-6	---	---	8.5-9.0	---	---	16.0-32.0	---
	6-60	---	---	8.5-9.0	---	---	16.0-32.0	---
2010:								
Chuffa-----	0-3	5.0-10	---	7.9-8.4	10-15	0	0.0-4.0	1-5
	3-13	5.0-20	---	7.9-8.4	10-15	0	0.0-8.0	1-12
	13-60	5.0-25	---	7.9-8.4	10-15	0	0.0-8.0	1-12
Chuffa-----	0-3	5.0-10	---	7.9-8.4	10-15	0	0.0-4.0	1-5
	3-13	5.0-20	---	7.9-8.4	10-15	0	0.0-8.0	1-12
	13-60	5.0-25	---	7.9-8.4	10-15	0	0.0-8.0	1-12
2020:								
Yobe-----	0-11	15-22	---	8.5-9.6	5-10	0	16.0-32.0	31-46
	11-18	20-26	---	7.9-9.8	5-10	0-1	4.0-32.0	13-30
	18-60	10-20	---	7.4-9.8	5-10	0-1	4.0-32.0	13-30
Yobe-----	0-11	15-22	---	8.5-9.6	5-10	0	16.0-32.0	31-46
	11-18	20-26	---	7.9-9.8	5-10	0-1	4.0-32.0	13-30
	18-60	10-20	---	7.4-9.8	5-10	0-1	4.0-32.0	13-30

TABLE 10--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	
2030: Teebone-----	0-2	24-33	---	8.5-9.6	15-25	0	4.0-8.0	1-5
	2-31	22-41	---	9.0-10.0	25-40	0	4.0-8.0	13-45
	31-60	22-41	---	9.0-10.0	20-30	0	4.0-8.0	13-45
Yobe-----	0-11	15-22	---	8.5-9.6	5-10	0	16.0-32.0	31-46
	11-18	20-26	---	7.9-9.8	5-10	0-1	4.0-32.0	13-30
	18-60	10-20	---	7.4-9.8	5-10	0-1	4.0-32.0	13-30
2041: Kolda-----	0-6	15-30	---	7.9-9.6	1-10	0	4.0-8.0	0
	6-22	15-30	---	8.5-9.6	1-15	0	4.0-8.0	0
	22-60	25-40	---	8.5-9.6	5-40	0	4.0-8.0	1-12
Duffer-----	0-11	10-20	---	7.9-9.6	20-40	0-2	4.0-32.0	13-90
	11-48	10-20	---	7.9-9.6	40-60	1-5	8.0-32.0	13-90
	48-66	5.0-20	---	7.9-9.6	20-60	1-2	4.0-32.0	13-30
2050: Ragnel-----	0-3	3.0-10	---	6.6-7.8	0	0	0	0
	3-11	7.0-15	---	6.6-9.0	0	0	0	0
	11-60	0.0-3.0	---	7.9-9.0	1-5	0	0.0-4.0	0
2060: Crestline-----	0-5	15-20	---	7.4-9.0	0-5	0	0.0-2.0	---
	5-10	18-22	---	7.4-9.0	0-5	0	0.0-2.0	---
	10-51	10-15	---	7.9-9.6	10-30	0-2	0.0-4.0	---
	51-60	4.0-10	---	7.9-9.0	5-20	0-2	0.0-4.0	---
Crestline-----	0-5	15-20	---	7.4-9.0	0-5	0	0.0-2.0	---
	5-10	18-22	---	7.4-9.0	0-5	0	0.0-2.0	---
	10-51	10-15	---	7.9-9.6	10-30	0-2	0.0-4.0	---
	51-60	4.0-10	---	7.9-9.0	5-20	0-2	0.0-4.0	---
Veet-----	0-4	4.6-16	---	7.4-9.0	0-10	0	0.0-2.0	0-5
	4-16	5.0-15	---	7.4-9.0	1-15	0	0.0-2.0	0-5
	16-60	2.0-8.0	---	7.9-9.0	1-15	0	0.0-2.0	0-5
2061: Crestline-----	0-5	15-20	---	7.4-9.0	0-5	0	0.0-2.0	---
	5-10	18-22	---	7.4-9.0	0-5	0	0.0-2.0	---
	10-51	10-15	---	7.9-9.6	10-30	0-2	0.0-4.0	---
	51-60	4.0-10	---	7.9-9.0	5-20	0-2	0.0-4.0	---
Linoyer-----	0-11	5.0-15	---	7.9-9.0	5-20	0	0.0-2.0	0
	11-60	5.0-15	---	7.9-9.0	10-40	0	0.0-2.0	0
2071: Chuffa-----	0-3	5.0-10	---	7.9-8.4	15-20	0	0.0-4.0	1-5
	3-13	5.0-20	---	7.9-8.4	15-20	0	0.0-8.0	1-12
	13-60	5.0-25	---	7.9-8.4	20-30	0	0.0-8.0	1-12
Linoyer-----	0-11	5.0-15	---	7.9-9.0	5-20	0	0.0-2.0	0
	11-60	5.0-15	---	7.9-9.0	10-40	0	0.0-2.0	0
Playas-----	0-6	---	---	8.5-9.0	---	---	16.0-32.0	---
	6-60	---	---	8.5-9.0	---	---	16.0-32.0	---
2100: Glotrain-----	0-4	6.4-13	---	7.9-9.6	0-5	0	2.0-4.0	1-5
	4-26	8.3-15	---	7.9-9.6	0-5	0	2.0-4.0	1-5
	26-60	3.6-8.5	---	7.9-9.6	0-5	0	2.0-4.0	1-5
Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5

TABLE 10--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	
Amtoft-----	0-3	10-20	---	7.9-9.0	10-70	---	0.0-2.0	0
	3-11	10-20	---	7.9-9.0	20-80	---	0.0-2.0	0
	11-15	---	---	---	---	---	---	0
Rock outcrop-----	---	---	---	---	---	---	---	---
3170:								
Linoyer-----	0-10	5.0-15	---	7.9-9.0	5-20	0	0.0-2.0	0
	10-60	5.0-15	---	7.9-9.0	10-40	0	0.0-2.0	0
Escalante-----	0-3	15-20	---	7.4-9.0	1-5	0	0.0-4.0	1-5
	3-27	15-20	---	7.9-9.6	15-40	0	0.0-4.0	0
	27-60	10-15	---	7.9-9.6	5-30	0	0.0-4.0	1-5
3190:								
Penoyer-----	0-8	5.0-10	---	7.9-9.0	10-20	0	0.0-4.0	0-5
	8-60	5.0-10	---	7.9-9.6	10-20	0-5	0.0-4.0	0-5
Geer-----	0-12	5.0-20	---	7.9-9.0	1-10	0	0.0-2.0	1-12
	12-65	5.0-25	---	7.9-9.6	5-15	0	2.0-4.0	1-12
3192:								
Saltydog-----	0-4	8.0-15	---	7.9-9.0	15-20	0	0.0-2.0	1-10
	4-17	11-18	---	8.5-9.6	18-24	0	0.0-4.0	10-30
	17-46	7.9-16	---	8.5-9.6	20-35	0	0.0-4.0	13-45
	46-65	0.0-3.2	---	9.1-10.0	0-5	0	0.0-4.0	13-30
Ambush-----	0-5	28-45	---	7.9-9.0	20-25	0	2.0-4.0	0-5
	5-14	28-50	---	8.5-9.6	25-35	0	0.0-2.0	0-5
	14-61	34-50	---	7.9-9.6	15-35	0	0.0-2.0	0-5
Panacker-----	0-5	3.3-4.8	---	7.9-9.0	10-20	0	0.0-2.0	0-5
	5-13	5.2-9.1	---	8.5-9.6	10-20	0	0.0-2.0	0-5
	13-39	5.4-9.0	---	8.5-10.5	15-25	0	0.0-2.0	2-30
	39-73	4.1-11	---	9.0-10.5	5-15	0	0.0-2.0	13-30
3193:								
Ewelac-----	0-3	20-30	---	9.1-9.6	25-35	1-5	0.0-4.0	13-30
	3-10	15-30	---	9.1-10.0	25-35	1-5	8.0-16.0	46-90
	10-35	15-30	---	9.1-10.0	25-35	1-5	4.0-8.0	31-45
	35-60	20-30	---	8.5-10.0	25-35	1-5	0.0-4.0	1-5
Playas-----	0-6	---	---	8.5-9.0	---	---	16.0-32.0	---
	6-60	---	---	8.5-9.0	---	---	16.0-32.0	---
3194:								
Ambush-----	0-5	28-45	---	7.9-9.0	20-25	0	2.0-4.0	0-5
	5-14	28-50	---	8.5-9.6	25-35	0	0.0-2.0	0-5
	14-61	34-50	---	7.9-9.6	15-35	0	0.0-2.0	0-5
Panacker-----	0-5	3.3-4.8	---	7.9-9.0	10-20	0	0.0-2.0	0-5
	5-13	5.2-9.1	---	8.5-9.6	10-20	0	0.0-2.0	0-5
	13-39	5.4-9.0	---	8.5-10.5	15-25	0	0.0-2.0	2-30
	39-73	4.1-11	---	9.0-10.5	5-15	0	0.0-2.0	13-30
Playas-----	0-6	---	---	8.5-9.0	---	---	16.0-32.0	---
	6-60	---	---	8.5-9.0	---	---	16.0-32.0	---
3196:								
Saltydog-----	0-4	8.0-15	---	7.9-9.0	15-20	0	0.0-2.0	1-10
	4-17	11-18	---	8.5-9.6	18-24	0	0.0-4.0	10-30
	17-46	7.9-16	---	8.5-9.6	20-35	0	0.0-4.0	13-45
	46-65	0.0-3.2	---	9.1-10.0	0-5	0	0.0-4.0	13-30
Geer-----	0-12	5.0-15	---	7.9-9.0	1-10	0	0.0-2.0	0-5
	12-65	5.0-15	---	7.9-9.6	5-15	0	2.0-4.0	1-5

TABLE 10--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	
3198: Ambush-----	0-5	28-45	---	7.9-9.0	20-25	0	2.0-4.0	0-5
	5-14	28-50	---	8.5-9.6	25-35	0	0.0-2.0	0-5
	14-61	34-50	---	7.9-9.6	15-35	0	0.0-2.0	0-5
Penoyer-----	0-8	5.0-10	---	7.9-9.0	10-30	0	0.0-4.0	0-12
	8-60	5.0-10	---	7.9-9.6	10-30	0-5	0.0-4.0	0-12
3221: Rouette-----	0-6	6.0-15	---	8.5-9.0	5-10	0	0.0-2.0	1-5
	6-17	6.0-15	---	7.9-9.0	5-10	0	0.0-2.0	1-5
	17-23	---	---	---	---	---	---	---
	23-60	0.0-5.0	---	7.9-9.0	5-10	0	0.0-2.0	1-5
Ursine-----	0-2	5.0-20	---	7.9-9.6	5-20	0	0.0-4.0	1-5
	2-5	5.0-15	---	7.9-9.6	20-40	0	0.0-4.0	1-5
	5-18	5.0-15	---	7.9-9.6	40-60	0	0.0-8.0	1-5
	18-70	---	---	---	---	---	---	---
Escalante-----	0-3	15-20	---	7.4-9.0	1-5	0	0.0-4.0	1-5
	3-27	15-20	---	7.9-9.6	15-40	0	0.0-4.0	0
	27-60	10-15	---	7.9-9.6	5-30	0	0.0-4.0	1-5
3290: Kunzler-----	0-4	5.0-15	---	7.9-9.0	1-5	0	0.0-2.0	0-10
	4-11	5.0-13	---	7.9-9.0	10-15	0	2.0-4.0	0-10
	11-41	4.0-12	---	7.9-9.6	15-20	0	4.0-16.0	15-35
	41-60	4.0-12	---	7.9-9.6	5-15	0	4.0-16.0	40-60
Sycomat-----	0-3	2.0-10	---	7.9-8.4	15-30	0	2.0-4.0	0-5
	3-21	2.0-10	---	7.9-9.6	15-30	0	2.0-4.0	0-5
	21-48	2.0-10	---	7.9-9.6	15-30	0	2.0-4.0	0-5
	48-60	0.0-2.0	---	8.5-9.0	15-30	0	2.0-4.0	0-5
3409: Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5
Qwynn-----	0-3	7.2-15	---	6.6-7.8	0-5	0	0.0-2.0	0-2
	3-28	6.9-15	---	7.4-8.4	2-10	0	0.0-2.0	0-2
	28-52	14-21	---	7.9-9.0	2-10	0	0.0-4.0	0-4
	52-70	4.5-15	---	7.9-9.0	2-10	0	0.0-2.0	0-2
Lojet-----	0-4	8.8-15	---	7.4-9.0	0-5	0	0.0-2.0	0-2
	4-11	21-27	---	7.4-9.0	0-5	0	2.0-4.0	2-6
	11-28	20-26	---	7.9-9.6	5-35	0	2.0-8.0	2-6
	28-35	20-26	---	7.9-9.6	15-35	0	2.0-8.0	2-6
	35-41	---	---	---	---	---	---	---
	41-60	3.6-12	---	7.9-9.6	15-35	0	2.0-8.0	2-6
3411: Watoopah-----	0-2	5.0-10	---	6.6-7.8	0	0	0.0-2.0	1-5
	2-12	5.0-15	---	6.6-7.8	0	0	0.0-2.0	1-5
	12-18	0.0-5.0	---	7.4-8.4	0-10	0	0.0-2.0	1-5
	18-60	0.0-5.0	---	7.9-9.0	5-15	0	0.0-4.0	1-12
Cath-----	0-6	10-20	---	6.6-8.4	0	0	0.0-2.0	0-5
	6-20	15-30	---	7.4-8.4	5-10	0	0.0-2.0	1-5
	20-28	15-25	---	7.9-9.0	10-15	0	0.0-2.0	1-5
	28-60	5.0-15	---	8.5-9.0	10-20	0	0.0-4.0	1-5
3412: Watoopah-----	0-2	5.0-10	---	6.6-7.8	0	0	0.0-2.0	1-5
	2-12	5.0-15	---	6.6-7.8	0	0	0.0-2.0	1-5
	12-18	0.0-5.0	---	7.4-8.4	0-10	0	0.0-2.0	1-5
	18-60	0.0-5.0	---	7.9-9.0	5-15	0	0.0-4.0	1-12

TABLE 10--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	
Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5
Littleaillie-----	0-3	7.2-15	---	7.9-9.0	0-5	0	2.0-4.0	2-6
	3-8	12-20	---	7.9-9.6	10-30	0	2.0-4.0	2-6
	8-19	3.7-15	---	7.9-9.6	10-30	0-3	4.0-8.0	4-12
	19-41	---	---	---	---	---	---	---
	41-62	2.7-8.5	---	8.5-9.6	20-30	0-3	4.0-8.0	4-12
3416:								
Watoopah-----	0-4	5.0-10	---	6.6-7.8	0	0	0.0-2.0	1-5
	4-14	5.0-15	---	6.6-7.8	0	0	0.0-2.0	1-5
	14-40	0.0-5.0	---	7.4-8.4	0-10	0	0.0-2.0	1-5
	40-60	0.0-5.0	---	7.9-9.0	5-15	0	0.0-4.0	1-12
3434:								
Lodar-----	0-3	12-29	---	7.4-8.4	25-35	0-5	0.0-2.0	0
	3-10	5.0-15	---	7.9-8.4	30-40	0	0.0-2.0	0
	10-19	5.0-15	---	7.9-8.4	40-60	0	0.0-2.0	0
	19-23	---	---	---	---	---	---	---
Amtoft-----	0-3	10-15	---	7.4-9.0	10-70	---	0.0-2.0	0
	3-11	10-20	---	7.9-9.0	20-80	---	0.0-2.0	0
	11-15	---	---	---	---	---	---	0
Rock outcrop-----	---	---	---	---	---	---	---	
3462:								
Littleaillie-----	0-3	7.2-15	---	7.9-9.0	0-5	0	2.0-4.0	2-6
	3-8	12-20	---	7.9-9.6	10-30	0	2.0-4.0	2-6
	8-19	3.7-15	---	7.9-9.6	10-30	0-3	4.0-8.0	4-12
	19-41	---	---	---	---	---	---	---
	41-62	2.7-8.5	---	8.5-9.6	20-30	0-3	4.0-8.0	4-12
Devildog-----	0-4	3.8-14	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	4-12	3.8-15	---	7.4-9.0	0-1	0	0.0-4.0	0-5
	12-38	3.6-15	---	7.9-9.0	0-5	0	0.0-4.0	0-5
	38-60	7.6-19	---	7.9-9.0	0-5	0	0.0-4.0	0-5
3466:								
Littleaillie-----	0-3	7.2-15	---	7.9-9.0	0-5	0	2.0-4.0	2-6
	3-8	12-20	---	7.9-9.6	10-30	0	2.0-4.0	2-6
	8-19	3.7-15	---	7.9-9.6	10-30	0-3	4.0-8.0	4-12
	19-41	---	---	---	---	---	---	---
	41-62	2.7-8.5	---	8.5-9.6	20-30	0-3	4.0-8.0	4-12
Littleaillie-----	0-3	7.2-15	---	7.9-9.0	0-5	0	2.0-4.0	2-6
	3-8	12-20	---	7.9-9.6	10-30	0	2.0-4.0	2-6
	8-19	3.7-15	---	7.9-9.6	10-30	0-3	4.0-8.0	4-12
	19-41	---	---	---	---	---	---	---
	41-62	2.7-8.5	---	8.5-9.6	20-30	0-3	4.0-8.0	4-12
3580:								
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	
3610:								
Threedogs-----	0-4	12-18	---	7.9-9.0	20-30	0	2.0-4.0	13-17
	4-12	14-17	---	8.5-10.3	20-35	0	2.0-4.0	13-17
	12-35	19-24	---	8.5-10.3	25-35	0	2.0-4.0	13-30
	35-60	12-16	---	8.5-10.3	30-60	0-1	2.0-4.0	13-30
	60-71	11-18	---	8.5-9.6	25-35	0-1	2.0-4.0	13-30
Slaw-----	0-5	5.0-15	---	8.5-9.6	1-4	0	16.0-32.0	13-30
	5-60	20-25	---	8.5-9.6	1-4	0-5	0.0-32.0	13-30

TABLE 10--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	
3612: Littlespring-----	0-5	6.9-13	---	7.4-8.4	5-10	---	0.0-4.0	5-13
	5-10	7.6-19	---	7.4-8.4	5-10	---	0.0-4.0	5-10
	10-27	19-25	---	7.4-8.4	15-25	---	2.0-4.0	5-10
	27-75	1.8-4.3	---	7.4-8.4	0-10	---	0.0-4.0	5-10
Bigspring-----	0-5	8.9-16	---	7.4-8.4	5-15	0	2.0-4.0	8-12
	5-12	12-16	---	7.4-8.4	5-15	0	2.0-4.0	8-12
	12-35	20-22	---	7.9-9.0	20-30	0	2.0-4.0	8-12
	35-58	20-32	---	7.9-9.0	2-15	0	2.0-4.0	8-12
	58-80	22-32	---	7.9-8.4	0-2	0	2.0-4.0	8-12
Greatday-----	0-4	7.0-13	---	7.9-8.4	30-35	0	0.0-2.0	5-13
	4-9	10-18	---	7.9-8.4	30-40	0	0.0-2.0	5-13
	9-27	18-26	---	7.9-9.0	40-70	0	0.0-2.0	3-13
	27-55	18-25	---	7.9-9.0	0-5	1-3	0.0-2.0	5-13
	55-60	12-25	---	7.9-9.0	0-5	0-1	0.0-2.0	5-13
3670: Logring-----	0-3	5.0-20	---	7.4-9.0	15-40	0-5	0.0-4.0	0-5
	3-10	5.0-20	---	7.4-9.0	15-40	0-5	0.0-4.0	0-5
	10-14	---	---	---	---	---	---	---
Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
Eaglepass-----	0-2	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-6	5.0-15	---	7.9-9.0	15-30	0	0.0-2.0	0-5
	6-10	---	---	---	---	---	---	---
3673: Kyler-----	0-3	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.6	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
Kyler-----	0-3	5.0-15	---	7.9-9.0	30-40	0	0.0-2.0	0-5
	3-11	5.0-15	---	7.9-9.0	30-40	0	0.0-2.0	0-5
	11-15	---	---	---	---	---	---	---
3675: Radol-----	0-2	9.6-24	---	7.9-9.0	5-20	1-5	0.0-4.0	0-3
	2-15	15-25	---	7.9-9.0	20-40	1-5	2.0-4.0	0-3
	15-19	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
Lodar-----	0-8	12-29	---	7.4-8.4	25-35	0-5	0.0-2.0	0
	8-16	14-22	---	7.9-9.0	30-40	0-5	0.0-2.0	0
	16-20	---	---	---	---	---	---	---
3700: Leo-----	0-4	0.0-3.0	---	7.9-9.0	0-5	0	0.0-2.0	0-2
	4-60	0.0-3.0	---	7.9-9.0	1-10	0	0.0-4.0	0-2
Delamar-----	0-3	5.0-10	---	7.9-9.0	1-5	0	0.0-2.0	0-5
	3-10	15-20	---	7.9-9.0	1-5	0	0.0-2.0	0-12
	10-21	20-25	---	7.9-9.0	1-10	0	0.0-2.0	0-12
	21-34	1.0-9.0	---	7.9-9.0	5-15	0	0.0-2.0	0-12
	34-60	---	---	---	---	---	---	---
3701: Leo-----	0-4	0.0-3.0	---	7.9-9.0	0-5	0	0.0-2.0	0-2
	4-60	0.0-3.0	---	7.9-9.0	1-10	0	0.0-4.0	0-2
Tybo-----	0-3	5.0-15	---	8.5-9.6	1-6	0	4.0-8.0	6-12
	3-17	5.0-15	---	8.5-9.6	3-10	0	4.0-8.0	6-12
	17-60	---	---	8.5-9.0	---	---	---	---

TABLE 10--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	
4032: Zafod-----	0-7	5.0-15	---	7.4-8.4	1-5	0	0	0-5
	7-16	2.0-8.0	---	7.9-9.0	5-15	0	0	0-5
	16-24	2.0-8.0	---	8.5-9.0	10-25	0	0	5-12
	24-34	---	---	---	---	---	---	---
	34-60	5.0-10	---	7.9-9.0	5-25	0	0.0-2.0	13-30
Sevenmile-----	0-11	10-20	---	6.6-8.4	0	0	0	0
	11-35	6.0-20	---	6.6-8.4	0	0	0	0
	35-60	5.0-15	---	7.4-8.4	0-3	0	0.0-2.0	0-5
4035: Highup-----	0-5	14-22	---	8.5-9.0	20-35	0-1	0	0
	5-16	12-20	---	7.9-9.0	20-35	0-1	0	0
	16-33	11-18	---	7.9-9.0	20-35	0-1	0	0
	33-37	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
Eganroc-----	0-9	15-24	---	7.4-7.8	0-2	0	0	0
	9-34	12-20	---	7.4-8.4	15-25	0	0	0
	34-38	---	---	---	---	---	---	---
4040: Farepeak-----	0-3	18-32	---	6.6-7.3	0	0	0	0
	3-13	25-36	---	7.4-8.4	0-1	0	0	0
	13-17	---	---	---	---	---	---	---
Hamtah-----	0-10	65-85	---	6.1-6.5	0	0	0	0
	10-21	65-85	---	6.6-7.3	0	0	0	0
	21-33	95-135	---	6.6-7.3	0	0	0	0
	33-41	95-135	---	6.6-7.3	0	0	0	0
	41-60	70-95	---	6.6-7.3	0	0	0	0
Starflyer-----	0-3	6.2-19	---	6.6-8.4	0-4	0	0.0-1.0	0-1
	3-18	21-28	---	6.6-8.4	0-4	0	0.0-1.0	0-1
	18-22	---	---	---	---	---	---	---
5021: Atlanta-----	0-10	5.0-15	---	7.9-8.4	15-25	0	0.0-2.0	0-13
	10-60	5.0-10	---	7.9-9.0	15-35	0	0.0-2.0	13-30
Escalante-----	0-3	15-20	---	7.4-9.0	1-5	0	0.0-4.0	1-5
	3-27	15-20	---	7.9-9.6	15-40	0	0.0-4.0	0
	27-60	10-15	---	7.9-9.6	5-30	0	0.0-4.0	1-5

TABLE 11.--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				
1001: Eastmore-----	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
Armespan-----	B	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
Ursine-----	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
1003: Eastmore-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Eastmore-----	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
Escalante-----	B	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
Armespan-----	B	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
Escalante-----	B	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
1011: Armespan-----	B	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 11.--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
1020: Geer-----	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
Slaw-----	C	Low	January	---	---	---	---	None	Brief	Occasional
			February	---	---	---	---	None	Brief	Occasional
			March	---	---	---	---	None	Brief	Occasional
			April	---	---	---	---	None	Brief	Occasional
			May	---	---	---	---	None	Brief	Occasional
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	Brief	Occasional
1021: Geer-----	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
Penoyer-----	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
1022: Cliffdown-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Geer-----	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
1029: Blackcan-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Veet-----	B	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
Armespan-----	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 11.--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				
1030: Ursine-----	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
Escalante-----	B	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
1031: Ursine-----	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
Geer-----	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
Ursine-----	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 11.--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
1032: Ursine-----	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
Mezzer-----	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
Armespan-----	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
1033: Ursine-----	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
Cliffdown-----	B	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 11.--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
1034: Ursine-----	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
Ursine-----	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
1035: Ursine-----	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
Ursine-----	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
1036: Ursine-----	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 11.--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			
Ursine-----	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			
Mezzer-----	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			
1040: Chuckmill-----	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			
Qwynn-----	B	Low	March	---	---	---	---	None	Very brief	Very rare			
			April	---	---	---	---	None	Very brief	Very rare			
			May	---	---	---	---	None	Very brief	Very rare			
			June	---	---	---	---	None	Very brief	Very rare			
			July	---	---	---	---	None	Very brief	Very rare			
			August	---	---	---	---	None	Very brief	Very rare			
			September	---	---	---	---	None	Very brief	Very rare			
			October	---	---	---	---	None	Very brief	Very rare			
			1042: Chuckridge-----	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 11.--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
Cath-----	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
Sevenmile-----	B	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
1043: Chuckridge-----	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
Handpah-----	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
1050: Ursine-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Escalante-----	B	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
Lien-----	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
1053: Ursine-----	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
Mezzer-----	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
Ursine-----	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 11.--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				
1060: Gravier-----	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
Geer-----	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
1071: Koyen-----	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
1073: Koyen-----	B	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
Colval-----	C	Negligible	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	0.0-0.8	Very brief	Rare	---	None
			May	---	---	0.0-0.8	Very brief	Rare	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 11.--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
1074: Koyen-----	B	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	
Slaw-----			C	Low	January	---	---	---	---	None
February	---	---			---	---	None	Brief	Occasional	
March	---	---			---	---	None	Brief	Occasional	
April	---	---			---	---	None	Brief	Occasional	
May	---	---			---	---	None	Brief	Occasional	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	Brief	Occasional	
Penoyer-----	B	Low			January	---	---	---	---	None
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	
1075: Koyen-----			B	Very low	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	
Penoyer-----	B	Low			January	---	---	---	---	None
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 11.--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
1076: Koyen-----	B	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	
Geer-----	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	
1080: Slaw-----	C	Low								
January			---	---	---	---	None	Brief	Occasional	
February			---	---	---	---	None	Brief	Occasional	
March			---	---	---	---	None	Brief	Occasional	
April			---	---	---	---	None	Brief	Occasional	
May			---	---	---	---	None	Brief	Occasional	
June			---	---	---	---	None	Brief	Occasional	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	Brief	Occasional	
1081: Slaw-----	C	Low								
January			---	---	---	---	None	Brief	Occasional	
February			---	---	---	---	None	Brief	Occasional	
March			---	---	---	---	None	Brief	Occasional	
April			---	---	---	---	None	Brief	Occasional	
May			---	---	---	---	None	Brief	Occasional	
June			---	---	---	---	None	Brief	Occasional	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	Brief	Occasional	
Sycomat-----	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 11.--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
1084: Slaw-----	C	Low	January	---	---	---	---	None	Brief	Occasional
February			---	---	---	---	None	Brief	Occasional	
March			---	---	---	---	None	Brief	Occasional	
April			---	---	---	---	None	Brief	Occasional	
May			---	---	---	---	None	Brief	Occasional	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	Brief	Occasional	
Penoyer-----			B	Low	January	---	---	---	---	None
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	
1085: Colval-----	C	Negligible			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	0.0-0.8	Very brief	Rare	---	None	
May			---	---	0.0-0.8	Very brief	Rare	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Slaw-----			C	Low	January	---	---	---	---	None
February	---	---			---	---	None	Brief	Occasional	
March	---	---			---	---	None	Brief	Occasional	
April	---	---			---	---	None	Brief	Occasional	
May	---	---			---	---	None	Brief	Occasional	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	Brief	Occasional	
Colval-----	C	Negligible			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	0.1-0.8	Brief	Rare	---	None	
May			---	---	0.1-0.8	Brief	Rare	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 11.--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		
1086: Slaw-----	C	Low	January	---	---	---	---	None	Brief	Occasional		
February			---	---	---	---	None	Brief	Occasional			
March			---	---	---	---	None	Brief	Occasional			
April			---	---	---	---	None	Brief	Occasional			
May			---	---	---	---	None	Brief	Occasional			
June			---	---	---	---	None	---	None			
July			---	---	---	---	None	---	None			
August			---	---	---	---	None	---	None			
September			---	---	---	---	None	---	None			
October			---	---	---	---	None	---	None			
November			---	---	---	---	None	---	None			
December			---	---	---	---	None	Brief	Occasional			
Slaw-----			C	Low	January	---	---	---	---	None	Brief	Occasional
February	---	---			---	---	None	Brief	Occasional			
March	---	---			---	---	None	Brief	Occasional			
April	---	---			---	---	None	Brief	Occasional			
May	---	---			---	---	None	Brief	Occasional			
June	---	---			---	---	None	---	None			
July	---	---			---	---	None	---	None			
August	---	---			---	---	None	---	None			
September	---	---			---	---	None	---	None			
October	---	---			---	---	None	---	None			
November	---	---			---	---	None	---	None			
December	---	---			---	---	None	Brief	Occasional			
Colval-----	C	Negligible			January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None			
March			---	---	---	---	None	---	None			
April			---	---	0.1-0.8	---	Brief	Rare	---	None		
May			---	---	0.1-0.8	---	Brief	Rare	---	None		
June			---	---	---	---	---	---	---	None		
July			---	---	---	---	---	---	---	None		
August			---	---	---	---	---	---	---	None		
September			---	---	---	---	---	---	---	None		
October			---	---	---	---	---	---	---	None		
November			---	---	---	---	---	---	---	None		
December			---	---	---	---	---	---	---	None		
1087: Glotrain-----			B	Low	March	---	---	---	---	None	Very brief	Very rare
April	---	---			---	---	None	Very brief	Very rare			
May	---	---			---	---	None	Very brief	Very rare			
June	---	---			---	---	None	Very brief	Very rare			
July	---	---			---	---	None	Very brief	Very rare			
August	---	---			---	---	None	Very brief	Very rare			
September	---	---			---	---	None	Very brief	Very rare			
October	---	---			---	---	None	Very brief	Very rare			
Koyen-----	B	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 11.--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
1088: Radol-----	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	
Eaglepass-----	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	
Monarch-----	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	
1090: Kyler-----	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	
Eaglepass-----	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 11.--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
1091: Kyler-----	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
Eaglepass-----	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
1093: Kyler-----	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 11.--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
Logring-----	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
1095: Kyler-----	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
Amtoft-----	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 11.--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
1096: Kyler-----	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	
Lodar-----	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	
1100: Linoyer-----	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	
Heist-----	B	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	
1103: Patter-----	B	Very low								
March			---	---	---	---	None	Very brief	Occasional	
April			---	---	---	---	None	Very brief	Occasional	
May			---	---	---	---	None	Very brief	Occasional	
June			---	---	---	---	None	Very brief	Occasional	
July			---	---	---	---	None	Very brief	Occasional	
August			---	---	---	---	None	Very brief	Occasional	
September			---	---	---	---	None	Very brief	Occasional	
October	---	---	---	---	None	Very brief	Occasional			

TABLE 11.--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
Sevenmile-----	B	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
1104: Colval-----	C	Negligible	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	0.0-0.8	Very brief	Rare	---	None
			May	---	---	0.0-0.8	Very brief	Rare	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Penoyer-----	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
1106: Patter-----	B	Very low	March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
Linco-----	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 11.--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				
1110: Nuhelen-----	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
Chubard-----	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
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
1111: Nuhelen-----	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
Farepeak-----	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 11.--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				
1113: Farepeak-----	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
Slockey-----	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
Schoolmarm-----	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
1114: Slockey-----	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
Schoolmarm-----	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 11.--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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
1115: Nuhelen-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Newvil-----	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
1120: Watoopah-----	B	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
Chuckmill-----	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 11.--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				
1130: Handpah-----	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
Chuckridge-----	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
Sevenmile-----	B	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
1131: Handpah-----	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
Watoopah-----	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 11.--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
Littleaillie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
1132: Handpah-----	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
Veet-----	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
1133: Lojet-----	B	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare

TABLE 11.--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			
Qwynn-----	B	Low	March	---	---	---	---	None	Very brief	Very rare			
			April	---	---	---	---	None	Very brief	Very rare			
			May	---	---	---	---	None	Very brief	Very rare			
			June	---	---	---	---	None	Very brief	Very rare			
			July	---	---	---	---	None	Very brief	Very rare			
			August	---	---	---	---	None	Very brief	Very rare			
			September	---	---	---	---	None	Very brief	Very rare			
			October	---	---	---	---	None	Very brief	Very rare			
			Littleailie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
						April	---	---	---	---	None	Extremely brief	Very rare
May	---	---				---	---	None	Extremely brief	Very rare			
June	---	---				---	---	None	Extremely brief	Very rare			
July	---	---				---	---	None	Extremely brief	Very rare			
August	---	---				---	---	None	Extremely brief	Very rare			
September	---	---				---	---	None	Extremely brief	Very rare			
October	---	---				---	---	None	Extremely brief	Very rare			
1134: Lojet-----	B	Very high	March	---	---	---	---	None	Extremely brief	Very rare			
			April	---	---	---	---	None	Extremely brief	Very rare			
			May	---	---	---	---	None	Extremely brief	Very rare			
			June	---	---	---	---	None	Extremely brief	Very rare			
			July	---	---	---	---	None	Extremely brief	Very rare			
			August	---	---	---	---	None	Extremely brief	Very rare			
			September	---	---	---	---	None	Extremely brief	Very rare			
			October	---	---	---	---	None	Extremely brief	Very rare			
			Chuckmill-----	D	Very high	Jan-Dec	---	---	---	---	None	---	---
			Sevenmile-----	B	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 11.--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				
1138: Littleailie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
			Lien-----	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
Sevenmile-----	B	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
1140: Cowgil-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Yody-----	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
Fax-----	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
1150: Zoda-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cath-----	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
1151: Watoopah-----	B	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 11.--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			
Zoda-----	C	High	January	---	---	---	---	None	---	None			
			February	---	---	---	---	None	---	None			
			March	---	---	---	---	None	Very brief	Very rare			
			April	---	---	---	---	None	Very brief	Very rare			
			May	---	---	---	---	None	---	None			
			June	---	---	---	---	None	---	None			
			July	---	---	---	---	None	---	None			
			August	---	---	---	---	None	---	None			
			September	---	---	---	---	None	---	None			
			October	---	---	---	---	None	---	None			
			November	---	---	---	---	None	---	None			
			December	---	---	---	---	None	---	None			
Sevenmile-----	B	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			
1154: Qwynn-----	B	Low	March	---	---	---	---	None	Very brief	Very rare			
			April	---	---	---	---	None	Very brief	Very rare			
			May	---	---	---	---	None	Very brief	Very rare			
			June	---	---	---	---	None	Very brief	Very rare			
			July	---	---	---	---	None	Very brief	Very rare			
			August	---	---	---	---	None	Very brief	Very rare			
			September	---	---	---	---	None	Very brief	Very rare			
			October	---	---	---	---	None	Very brief	Very rare			
			Ragnel-----	B	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						
1160: Silent-----	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 11.--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
Koyen-----	B	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
1170: Haunchee-----	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
Hardol-----	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
Xine-----	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
1171: Haunchee-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hardzem-----	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
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
1172: Haunchee-----	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
Wardbay-----	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
Hardzem-----	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 11.--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				
1180: Eoj-----	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	
Eoj-----			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	
McIvey-----	C	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	
1190: Pookaloo-----			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	
Cavehill-----	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	

TABLE 11.--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
1200: Urmafot-----	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
Bobs-----	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
Palinor-----	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
1210: Palinor-----	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 11.--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
1211: Palinor-----	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	
Urmafot-----	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	
Urmafot-----			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	
1212: Palinor-----	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	
Yody-----			C	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 11.--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
Broland-----	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
1215: Ursine-----	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
Jarab-----	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
1220: Lien-----	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
Devildog-----	B	Low	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare

TABLE 11.--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
1230: Yotes-----	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	
Sevenmile-----			B	Very low	January	---	---	---	---	None
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	
1231: Newvil-----	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	
Nevu-----			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	
Ponyspring-----	B	Medium			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 11.--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
1232: Nevu-----	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	
Ponyspring-----	B	Low								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Okayview-----	C	High								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	Very brief	Very rare	
August			---	---	---	---	None	Very brief	Very rare	
September			---	---	---	---	None	Very brief	Very rare	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
1240: Sycomat-----	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	
Escalante-----	B	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 11.--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
Gravier-----	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
1270: Heusser-----	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
Wambolt-----	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
1280: Badena-----	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
1291: Zimbob-----	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 11.--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
Pookaloo-----	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
Cavehill-----	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
1300: Pioche-----	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
Birchcreek-----	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
Cropper-----	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 11.--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
1307: Kyler-----	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	
Amtoft-----	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	
Eaglepass-----	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	
1310: Duffer-----	C	Low								
January			1.5-3.0	>6.0	---	---	None	---	Very brief	Occasional
February			1.5-3.0	>6.0	---	---	None	---	Very brief	Occasional
March			1.5-3.0	>6.0	---	---	None	---	Very brief	Occasional
April			1.5-3.0	>6.0	---	---	None	---	Very brief	Occasional
May			1.5-3.0	>6.0	---	---	None	---	Very brief	Occasional
June			1.5-3.0	>6.0	---	---	None	---	Very brief	Occasional
July			---	---	---	---	None	---	---	None
August			---	---	---	---	None	---	---	None
September			---	---	---	---	None	---	---	None
October			---	---	---	---	None	---	---	None
November			---	---	---	---	None	---	---	None
December			---	---	---	---	None	---	---	None
Duffer-----	C	Low								
January			1.5-3.0	>6.0	---	---	None	---	---	None
February			1.5-3.0	>6.0	---	---	None	---	---	None
March			1.5-3.0	>6.0	---	---	None	---	Very brief	Frequent
April			1.5-3.0	>6.0	---	---	None	---	Very brief	Frequent
May			1.5-3.0	>6.0	---	---	None	---	Very brief	Frequent
June			1.5-3.0	>6.0	---	---	None	---	Very brief	Frequent
July			---	---	---	---	None	---	---	None
August			---	---	---	---	None	---	---	None
September			---	---	---	---	None	---	---	None
October			---	---	---	---	None	---	---	None
November			---	---	---	---	None	---	---	None
December			---	---	---	---	None	---	---	None

TABLE 11.--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	
Kolda-----	D	Very high		Ft	Ft	Ft					
			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	---	None	
			April	0.0-1.5	>6.0	---	---	None	---	None	
			May	0.0-1.5	>6.0	---	---	None	---	None	
			June	0.0-1.5	>6.0	---	---	None	---	None	
			July	---	---	---	---	None	---	None	
			August	---	---	---	---	None	---	None	
			September	---	---	---	---	None	---	None	
			October	0.0-1.5	>6.0	---	---	None	---	None	
			November	0.0-1.5	>6.0	---	---	None	---	None	
December	0.0-1.5	>6.0	---	---	None	---	None				
1320: Broland-----	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	
Yody-----	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	
1330: Amelar-----	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	
Eoj-----	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 11.--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
Hardol-----	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
1340: Heist-----	B	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
Heist-----	B	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
1350: Heist-----	B	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
Chuffa-----	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 11.--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
1359: Devildog-----	B	Low	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
Gardenvalley-----	B	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
Qwynn-----	B	Low	March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
1360: Veet-----	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
Armespan-----	B	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 11.--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
1362: Kyler-----	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	
Amtoft-----			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	
Amtoft-----	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	
1370: Amtoft-----			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	
Kyler-----	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 11.--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				
1380: Cavehill-----	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
Cavehill-----			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
Rock outcrop-----	---	---			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
1381: Ursine-----			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
Armespan-----	B	Low			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 11.--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				
1382: Ursine-----	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
Medburn-----	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	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
1384: Cavehill-----	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
Haunchee-----	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 11.--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
Cavehill-----	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
1386: Ursine-----	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
Ursine-----	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
Eastmore-----	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
1388: Eastmore-----	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 11.--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
Summermute-----	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
Ursine-----	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
1400: Suak-----	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
Segura-----	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
McIvey-----	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 11.--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				
1430: Hardzem-----	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
Hackwood-----	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
Guiser-----	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
1435: Haunchee-----	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 11.--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
1470: Tybo-----	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	
Koyen-----	B	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	
1473: Tybo-----			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	
Leo-----	A	Very low			January	---	---	---	---	None
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	
1475: Treadwell-----			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 11.--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
Treadwell-----	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
Veet-----	B	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
1485: Monarch-----	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
Highup-----	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
Eganroc-----	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 11.--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
1501: Radol-----	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	
Monarch-----	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	
Higup-----	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	
1502: Lodar-----	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	
Logring-----	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 11.--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
1510: Ursine-----	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
Jarab-----	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
Pamsdel-----	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
1525: Ubehebe-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Penelas-----	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
Kyler-----	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
1700: Garfan-----	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
Garfan-----	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
McIvey-----	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 11.--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						
1701: Suak-----	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			
Chen-----			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		
1730: Qwynn-----	B	Low	March	---	---	---	---	None	Very brief	Very rare		
April			---	---	---	---	None	Very brief	Very rare			
May			---	---	---	---	None	Very brief	Very rare			
June			---	---	---	---	None	Very brief	Very rare			
July			---	---	---	---	None	Very brief	Very rare			
August			---	---	---	---	None	Very brief	Very rare			
September			---	---	---	---	None	Very brief	Very rare			
October			---	---	---	---	None	Very brief	Very rare			
Devildog-----			B	Medium	March	---	---	---	---	None	Very brief	Rare
April					---	---	---	---	None	Very brief	Rare	
May	---	---			---	---	None	Very brief	Rare			
August	---	---			---	---	None	Very brief	Rare			
September	---	---			---	---	None	Very brief	Rare			
October	---	---	---	---	None	Very brief	Rare					

TABLE 11.--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
1731: Cath-----	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	
Chuckridge-----			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	
1732: Cath-----	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	
Watoopah-----			B	Very low	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	
Escalante-----	B	Very low			January	---	---	---	---	None
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 11.--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				
1733: Cath-----	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
Watoopah-----	B	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
Escalante-----	B	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
1810: Boxspring-----	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 11.--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
1880: Richinde-----	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	
Pintwater-----			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	
Rock outcrop-----	---	---			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	
1881: Richinde-----			C	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	
Richinde-----	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 11.--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
1882: Richinde-----	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
Richinde-----	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
1885: Richinde-----	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
Chubard-----	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 11.--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
Richinde-----	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
1900: Eaglepass-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Amtoft-----	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
1910: Radol-----	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 11.--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
Lodar-----	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			
1920: Eganroc-----	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			
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Radol-----	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			
1922: Lodar-----	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 11.--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
Eaglepass-----	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
Radol-----	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
1930: Nuhelen-----	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
Chubard-----	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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	

TABLE 11.--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
1940: Chubard-----	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	
Chubard-----	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	
Rock outcrop-----			---	---	Jan-Dec	---	---	---	---	None
1942: Richinde-----	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	
Chubard-----			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	

TABLE 11.--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
Chubard-----	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
1945: Chubard-----	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
Richinde-----	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
1946: Chubard-----	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
Chubard-----	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 11.--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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
1948: Farepeak-----	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
Schoolmarm-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
1949: Richinde-----	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
Chubard-----	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 11.--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
Chubard-----	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
1955: Treadwell-----	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
Chuckridge-----	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
Handpah-----	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
1957: Malmesa-----	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 11.--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
Nevoyer-----	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
Treadwell-----	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
1958: Nevoyer-----	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
Lomoine-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
1959: Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Rubble land-----	---	---	Jan-Dec	---	---	---	---	None	---	---

TABLE 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Chubard-----	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
1960: Devildog-----	B	Medium	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
Devildog-----	B	Medium	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
1989: Gabbvally-----	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 11.--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				
1990: Richinde-----	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
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
2000: Playas-----	D	Negligible	January	---	---	---	---	None	---	None
			February	---	---	0.0-0.1	Long	Frequent	---	None
			March	---	---	0.0-0.1	Long	Frequent	---	None
			April	---	---	0.0-0.2	Long	Frequent	---	None
			May	---	---	0.0-0.1	Long	Frequent	---	None
			June	0.0	0.0-0.1	0.0-0.1	Brief	Frequent	---	None
			July	---	---	0.0-0.1	Very brief	Occasional	---	None
			August	---	---	0.0-0.1	Very brief	Occasional	---	None
			September	---	---	0.0-0.1	Very brief	Occasional	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
2010: Chuffa-----	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
Chuffa-----	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 11.--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
2020: Yobe-----	C	Negligible		Ft	Ft	Ft				
January			3.0-5.0	>6.0	---	---	None	Long	Occasional	
February			3.0-5.0	>6.0	---	---	None	Long	Occasional	
March			3.0-5.0	>6.0	---	---	None	Long	Occasional	
April			3.0-5.0	>6.0	---	---	None	Long	Occasional	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Yobe-----	C	Negligible	January	3.0-5.0	>6.0	---	---	None	Long	Occasional
February			3.0-5.0	>6.0	---	---	None	Long	Occasional	
March			3.0-5.0	>6.0	---	---	None	Long	Occasional	
April			3.0-5.0	>6.0	---	---	None	Long	Occasional	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
2030: Teebone-----			C	Negligible	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	3.0-5.0	---			3.0-5.0	Brief	Occasional	---	None	
April	3.0-5.0	---			3.0-5.0	Brief	Occasional	---	None	
May	3.0-5.0	---			3.0-5.0	Brief	Occasional	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
Yobe-----	C	Negligible			January	3.0-5.0	>6.0	---	---	None
February			3.0-5.0	>6.0	---	---	None	Long	Occasional	
March			3.0-5.0	>6.0	---	---	None	Long	Occasional	
April			3.0-5.0	>6.0	---	---	None	Long	Occasional	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
2041: Kolda-----			D	Negligible	January	0.0-1.5	>6.0	---	---	None
February	0.0-1.5	>6.0			---	---	None	---	None	
March	0.0-1.5	>6.0			0.0-0.3	Long	Occasional	---	None	
April	0.0-1.5	>6.0			0.0-0.3	Long	Occasional	---	None	
May	0.0-1.5	>6.0			0.0-0.3	Long	Occasional	---	None	
June	0.0-1.5	>6.0			0.0-0.3	Long	Occasional	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	0.0-1.5	>6.0			---	---	None	---	None	
November	0.0-1.5	>6.0			---	---	None	---	None	
December	0.0-1.5	>6.0			---	---	None	---	None	

TABLE 11.--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	
Duffer-----	C	Negligible		Ft	Ft	Ft					
			January	1.5-3.0	>6.0	---	---	None	Very brief	Occasional	
			February	1.5-3.0	>6.0	---	---	None	Very brief	Occasional	
			March	1.5-3.0	>6.0	---	---	None	Very brief	Occasional	
			April	1.5-3.0	>6.0	---	---	None	Very brief	Occasional	
			May	1.5-3.0	>6.0	---	---	None	Very brief	Occasional	
			June	1.5-3.0	>6.0	---	---	None	Very brief	Occasional	
			July	---	---	---	---	None	---	None	
			August	---	---	---	---	None	---	None	
			September	---	---	---	---	None	---	None	
			October	---	---	---	---	None	---	None	
			November	---	---	---	---	None	---	None	
December	---	---	---	---	None	---	None				
2050: Ragnel-----	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	
2060: Crestline-----	B	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	
Crestline-----	B	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	
Veet-----	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 11.--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
2061: Crestline-----	B	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	
Linoyer-----			B	Low	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	
2071: Chuffa-----	B	Low			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	
Linoyer-----			B	Low	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	
Playas-----	D	Negligible			January	---	---	---	---	None
February			---	---	0.0-0.1	Long	Frequent	---	None	
March			---	---	0.0-0.1	Long	Frequent	---	None	
April			---	---	0.0-0.2	Long	Frequent	---	None	
May			---	---	0.0-0.1	Long	Frequent	---	None	
June			0.0	0.0-0.1	0.0-0.1	Brief	Frequent	---	None	
July			---	---	0.0-0.1	Very brief	Occasional	---	None	
August			---	---	0.0-0.1	Very brief	Occasional	---	None	
September			---	---	0.0-0.1	Very brief	Occasional	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 11.--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							
2100: Glotrain-----	B	Medium	March	---	---	---	---	None	Very brief	Very rare			
			April	---	---	---	---	None	Very brief	Very rare			
			May	---	---	---	---	None	Very brief	Very rare			
			June	---	---	---	---	None	Very brief	Very rare			
			July	---	---	---	---	None	Very brief	Very rare			
			August	---	---	---	---	None	Very brief	Very rare			
			September	---	---	---	---	None	Very brief	Very rare			
			October	---	---	---	---	None	Very brief	Very rare			
			Devildog-----	B	Low	March	---	---	---	---	None	Very brief	Rare
						April	---	---	---	---	None	Very brief	Rare
May	---	---				---	---	None	Very brief	Rare			
August	---	---				---	---	None	Very brief	Rare			
September	---	---				---	---	None	Very brief	Rare			
October	---	---				---	---	None	Very brief	Rare			
2120: Sevenmile-----	B	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			
			Devildog-----	B	Medium	March	---	---	---	---	None	Very brief	Rare
April	---	---				---	---	None	Very brief	Rare			
May	---	---				---	---	None	Very brief	Rare			
August	---	---				---	---	None	Very brief	Rare			
September	---	---				---	---	None	Very brief	Rare			
October	---	---				---	---	None	Very brief	Rare			
2122: Lojet-----	B	Very high	March	---	---	---	---	None	Extremely brief	Very rare			
			April	---	---	---	---	None	Extremely brief	Very rare			
			May	---	---	---	---	None	Extremely brief	Very rare			
			June	---	---	---	---	None	Extremely brief	Very rare			
			July	---	---	---	---	None	Extremely brief	Very rare			
			August	---	---	---	---	None	Extremely brief	Very rare			
			September	---	---	---	---	None	Extremely brief	Very rare			
			October	---	---	---	---	None	Extremely brief	Very rare			

TABLE 11.--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
Littleaillie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
2123: Littleaillie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
Lojet-----	B	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
2280: Granquin-----	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 11.--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
Schoolmarm-----	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			
Starflyer-----	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	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
2283: Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Chubard-----	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			
Richinde-----	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 11.--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				
2284: Starflyer-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	Brief	Very rare	
August			---	---	---	---	None	Brief	Very rare	
September			---	---	---	---	None	Brief	Very rare	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Starflyer-----			D	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	Brief	Very rare	
August	---	---			---	---	None	Brief	Very rare	
September	---	---			---	---	None	Brief	Very rare	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
2285: Schoolmarm-----	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	
Starflyer-----			D	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	Brief	Very rare	
August	---	---			---	---	None	Brief	Very rare	
September	---	---			---	---	None	Brief	Very rare	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
Schoolmarm-----	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 11.--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
2286: Schoolmarm-----	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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
2287: Granquin-----	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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Schoolmarm-----	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
2288: Schoolmarm-----	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 11.--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
Granquin-----	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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
2290: Richinde-----	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	
Chubard-----	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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
2292: Chubard-----	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 11.--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
Richinde-----	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
2296: Chubard-----	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
Chubard-----	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
Chubard-----	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
2297: Chubard-----	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 11.--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
Richinde-----	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
			Rock outcrop-----	---	---	Jan-Dec	---	---	---	---
2298: Chubard-----	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	
Richinde-----			C	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
	Chubard-----	C			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 11.--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				
2299: Chubard-----	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
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
2301: Stewval-----	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
Gabbvally-----	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
2302: Chubard-----	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 11.--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
Nuhelen-----	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
2304: Chubard-----	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
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
2305: Chubard-----	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 11.--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
Littleaillie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
Devildog-----	B	Medium	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
2311: Cliffdown-----	B	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
2312: Fang-----	B	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
Nyala-----	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 11.--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
2320: Blackcan-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	Extremely brief	Very rare
August			---	---	---	---	None	---	Extremely brief	Very rare
September			---	---	---	---	None	---	Extremely brief	Very rare
October			---	---	---	---	None	---	---	None
November			---	---	---	---	None	---	---	None
December			---	---	---	---	None	---	---	None
Blackcan-----			D	High	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	Extremely brief	Very rare
August	---	---			---	---	None	---	Extremely brief	Very rare
September	---	---			---	---	None	---	Extremely brief	Very rare
October	---	---			---	---	None	---	---	None
November	---	---			---	---	None	---	---	None
December	---	---			---	---	None	---	---	None
3010: Anaud-----	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	
Cagas-----			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	

TABLE 11.--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
3036: Kyler-----	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
Amtoft-----	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
3170: Linoyer-----	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 11.--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
Escalante-----	B	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
3190: Penoyer-----	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
Geer-----	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
3192: Saltydog-----	B	Very low	January	---	---	---	---	None	Extremely brief	Rare
			February	---	---	---	---	None	Extremely brief	Rare
			March	---	---	---	---	None	Extremely brief	Rare
			April	---	---	---	---	None	Extremely brief	Rare
			May	---	---	---	---	None	Extremely brief	Rare
			June	---	---	---	---	None	Extremely brief	Rare
			July	---	---	---	---	None	Extremely brief	Rare
			August	---	---	---	---	None	Extremely brief	Rare
			September	---	---	---	---	None	Extremely brief	Rare
			October	---	---	---	---	None	Extremely brief	Rare
			November	---	---	---	---	None	Extremely brief	Rare
			December	---	---	---	---	None	Extremely brief	Rare

TABLE 11.--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
Ambush-----	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
Panacker-----	B	Low	January	---	---	---	---	None	Extremely brief	Very rare
			February	---	---	---	---	None	Extremely brief	Very rare
			March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
			November	---	---	---	---	None	Extremely brief	Very rare
			December	---	---	---	---	None	Extremely brief	Very rare
3193: Ewelac-----	D	Medium	January	---	---	---	---	None	---	None
			February	3.5-6.0	>6.0	---	---	None	---	None
			March	3.5-6.0	>6.0	---	---	None	---	None
			April	3.5-6.0	>6.0	---	---	None	---	None
			May	3.5-6.0	>6.0	---	---	None	---	None
			June	3.5-6.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Playas-----	D	Negligible	January	---	---	---	---	None	---	None
			February	---	---	0.0-0.1	Long	Frequent	---	None
			March	---	---	0.0-0.1	Long	Frequent	---	None
			April	---	---	0.0-0.2	Long	Frequent	---	None
			May	---	---	0.0-0.1	Long	Frequent	---	None
			June	0.0	0.0-0.1	0.0-0.1	Brief	Frequent	---	None
			July	---	---	0.0-0.1	Very brief	Occasional	---	None
			August	---	---	0.0-0.1	Very brief	Occasional	---	None
			September	---	---	0.0-0.1	Very brief	Occasional	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 11.--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
3194: Ambush-----	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
Panacker-----	B	Low								
			January	---	---	---	---	None	Extremely brief	Very rare
			February	---	---	---	---	None	Extremely brief	Very rare
			March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
			November	---	---	---	---	None	Extremely brief	Very rare
			December	---	---	---	---	None	Extremely brief	Very rare
Playas-----	D	Negligible								
			January	---	---	---	---	None	---	None
			February	---	---	0.0-0.1	Long	Frequent	---	None
			March	---	---	0.0-0.1	Long	Frequent	---	None
			April	---	---	0.0-0.2	Long	Frequent	---	None
			May	---	---	0.0-0.1	Long	Frequent	---	None
			June	0.0	0.0-0.1	0.0-0.1	Brief	Frequent	---	None
			July	---	---	0.0-0.1	Very brief	Occasional	---	None
			August	---	---	0.0-0.1	Very brief	Occasional	---	None
			September	---	---	0.0-0.1	Very brief	Occasional	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 11.--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
3196: Saltydog-----	B	Very low	January	---	---	---	---	None	Extremely brief	Rare
			February	---	---	---	---	None	Extremely brief	Rare
			March	---	---	---	---	None	Extremely brief	Rare
			April	---	---	---	---	None	Extremely brief	Rare
			May	---	---	---	---	None	Extremely brief	Rare
			June	---	---	---	---	None	Extremely brief	Rare
			July	---	---	---	---	None	Extremely brief	Rare
			August	---	---	---	---	None	Extremely brief	Rare
			September	---	---	---	---	None	Extremely brief	Rare
			October	---	---	---	---	None	Extremely brief	Rare
			November	---	---	---	---	None	Extremely brief	Rare
			December	---	---	---	---	None	Extremely brief	Rare
Geer-----	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
3198: Ambush-----	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
Penoyer-----	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 11.--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
3221: Rouette-----	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	
Ursine-----			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	
Escalante-----	B	Very low			January	---	---	---	---	None
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
3290: Kunzler-----			C	Low	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	Extremely brief	Very rare
August	---	---			---	---	None	---	Extremely brief	Very rare
September	---	---			---	---	None	---	Extremely brief	Very rare
October	---	---			---	---	None	---	---	None
November	---	---			---	---	None	---	---	None
December	---	---			---	---	None	---	---	None

TABLE 11.--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			
Sycomat-----	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			
3409: Devildog-----	B	Low	March	---	---	---	---	None	Very brief	Rare			
			April	---	---	---	---	None	Very brief	Rare			
			May	---	---	---	---	None	Very brief	Rare			
			August	---	---	---	---	None	Very brief	Rare			
			September	---	---	---	---	None	Very brief	Rare			
			October	---	---	---	---	None	Very brief	Rare			
Qwynn-----	B	Low	March	---	---	---	---	None	Very brief	Very rare			
			April	---	---	---	---	None	Very brief	Very rare			
			May	---	---	---	---	None	Very brief	Very rare			
			June	---	---	---	---	None	Very brief	Very rare			
			July	---	---	---	---	None	Very brief	Very rare			
			August	---	---	---	---	None	Very brief	Very rare			
			September	---	---	---	---	None	Very brief	Very rare			
			October	---	---	---	---	None	Very brief	Very rare			
			Lojet-----	B	Very high	March	---	---	---	---	None	Extremely brief	Very rare
						April	---	---	---	---	None	Extremely brief	Very rare
May	---	---				---	---	None	Extremely brief	Very rare			
June	---	---				---	---	None	Extremely brief	Very rare			
July	---	---				---	---	None	Extremely brief	Very rare			
August	---	---				---	---	None	Extremely brief	Very rare			
September	---	---				---	---	None	Extremely brief	Very rare			
October	---	---				---	---	None	Extremely brief	Very rare			
3411: Watoopah-----	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 11.--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
Cath-----	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
3412: Watoopah-----	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
Devildog-----	B	Low	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
October	---	---	---	---	None	Very brief	Rare			
Littleallie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
3416: Watoopah-----	B	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 11.--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				
3434: Lodar-----	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
Amtoft-----	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
3462: Littleailie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
			April	---	---	---	---	None	Extremely brief	Very rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Extremely brief	Very rare
			August	---	---	---	---	None	Extremely brief	Very rare
			September	---	---	---	---	None	Extremely brief	Very rare
			October	---	---	---	---	None	Extremely brief	Very rare
Devildog-----	B	Low	March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare

TABLE 11.--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
3466: Littleailie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
April			---	---	---	---	None	Extremely brief	Very rare	
May			---	---	---	---	None	Extremely brief	Very rare	
June			---	---	---	---	None	Extremely brief	Very rare	
July			---	---	---	---	None	Extremely brief	Very rare	
August			---	---	---	---	None	Extremely brief	Very rare	
September			---	---	---	---	None	Extremely brief	Very rare	
October			---	---	---	---	None	Extremely brief	Very rare	
Littleailie-----	C	Very high	March	---	---	---	---	None	Extremely brief	Very rare
April			---	---	---	---	None	Extremely brief	Very rare	
May			---	---	---	---	None	Extremely brief	Very rare	
June			---	---	---	---	None	Extremely brief	Very rare	
July			---	---	---	---	None	Extremely brief	Very rare	
August			---	---	---	---	None	Extremely brief	Very rare	
September			---	---	---	---	None	Extremely brief	Very rare	
October			---	---	---	---	None	Extremely brief	Very rare	
3580: Kyler-----	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 11.--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
3610: Threedogs-----	D	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
Slaw-----	C	Medium								
			January	---	---	---	---	None	Brief	Occasional
			February	---	---	---	---	None	Brief	Occasional
			March	---	---	---	---	None	Brief	Occasional
			April	---	---	---	---	None	Brief	Occasional
			May	---	---	---	---	None	Brief	Occasional
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	Brief	Occasional
3612: Littlespring-----	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
Bigspring-----	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
Greatday-----	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 11.--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
3670: Logring-----	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
Kyler-----	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
Eaglepass-----	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
3673: Kyler-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---

TABLE 11.--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
Kyler-----	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
3675: Radol-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Lodar-----	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
3700: Leo-----	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 11.--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
Delamar-----	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
3701: Leo-----	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
Tybo-----	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
3860: Hyzen-----	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
Eganroc-----	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 11.--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
3870: Newvil-----	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
Chuckmill-----	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
Sevenmile-----	B	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
3871: Newvil-----	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 11.--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
Sevenmile-----	B	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
3880: Nevu-----	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
Okayview-----	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
Sevenmile-----	B	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
3890: Anaud-----	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 11.--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
3892: Slockey-----	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	
Hamtah-----	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	
Schoolmarm-----			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	
3894: Schoolmarm-----	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	
Sevenmile-----			B	Very low	January	---	---	---	---	None
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 11.--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
4001: Modem-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	Extremely brief	Very rare
August			---	---	---	---	None	---	Extremely brief	Very rare
September			---	---	---	---	None	---	Extremely brief	Very rare
October			---	---	---	---	None	---	---	None
November			---	---	---	---	None	---	---	None
December			---	---	---	---	None	---	---	None
Newvil-----			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	
Sevenmile-----	B	Very low			January	---	---	---	---	None
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
4002: Jarab-----			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 11.--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
Ravendog-----	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
4011: Radol-----	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
Lodar-----	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
4013: Lodar-----	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 11.--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
4014: Lodar-----	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
Eaglepass-----	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
4015: Buzztail-----	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
Lodar-----	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 11.--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
Buzztail-----	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
4017: Amtoft-----	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-----	---	---	Jan-Dec	---	---	---	---	None	---	---
4018: Eoj-----	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
Schoolmarm-----	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 11.--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
McIvey-----	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
4020: Schoolmarm-----	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
Farepeak-----	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
4022: Schoolmarm-----	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 11.--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
Slockey-----	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
Schoolmarm-----	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
4024: Slockey-----	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	
Schoolmarm-----	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
Schoolmarm-----	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 11.--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				
4030: 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
Starflyer-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
4032: Zafod-----	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
Sevenmile-----	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
4035: Highup-----	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 11.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
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
Eganroc-----	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
4040: Farepeak-----	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
Hamtah-----	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
Starflyer-----	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	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 11.--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
5021: Atlanta-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Escalante-----	B	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 12.--SOIL FEATURES

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
		In	In		In	In			
1001: Eastmore-----	Duripan	10-20	4-17	Strongly cemented	0	---	Low	High	Low
Armespan-----	---	---	---	---	0	---	Moderate	Moderate	Low
Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
1003: Eastmore-----	Duripan	10-20	4-17	Strongly cemented	0	---	Low	High	Low
Eastmore-----	Duripan	10-20	4-17	Strongly cemented	0	---	Low	High	Low
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
1010: Armespan-----	---	---	---	---	0	---	Moderate	Moderate	Low
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
1011: Armespan-----	---	---	---	---	0	---	Moderate	Moderate	Low
1020: Geer-----	---	---	---	---	0	---	Low	High	Low
Slaw-----	---	---	---	---	0	---	Moderate	High	High
1021: Geer-----	---	---	---	---	0	---	Low	High	Low
Penoyer-----	---	---	---	---	0	---	Moderate	High	Low
1022: Cliffdown-----	---	---	---	---	0	---	Low	High	High
Geer-----	---	---	---	---	0	---	Low	High	Low
1029: Blackcan-----	Duripan	14-20	20-50	Indurated	0	---	Moderate	Low	Low
Veet-----	---	---	---	---	0	---	Moderate	High	Low
Armespan-----	---	---	---	---	0	---	Moderate	High	Low
1030: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
1031: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Geer-----	---	---	---	---	0	---	Low	High	Low
Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
1032: Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Mezzer-----	---	---	---	---	0	---	Moderate	High	Low
Armespan-----	---	---	---	---	0	---	Moderate	High	Low
1033: Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Cliffdown-----	---	---	---	---	0	---	Low	High	High
1034: Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
Ursine-----	Duripan	In 14-20	In 4-17	Indurated	In 0	In ---	Moderate	High	Moderate
1035: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
1036: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Mezzer-----	---	---	---	---	0	---	Moderate	High	Low
1040: Chuckmill-----	Duripan	7-14	4-17	Indurated	0	---	Low	High	Low
Qwynn-----	---	---	---	---	0	---	Low	Moderate	Low
1042: Chuckridge-----	Duripan	7-14	4-17	Indurated	0	---	Moderate	High	Low
Cath-----	---	---	---	---	0	---	Moderate	High	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
1043: Chuckridge-----	Duripan	7-14	4-17	Indurated	0	---	Moderate	High	Low
Handpah-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
1050: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
Lien-----	Duripan	6-14	---	Indurated	0	---	Moderate	High	Low
	Duripan	18-33	---	Weakly cemented					
1053: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Mezzer-----	---	---	---	---	0	---	Moderate	High	Low
Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
1060: Gravier-----	---	---	---	---	0	---	Low	High	Low
Geer-----	---	---	---	---	0	---	Low	High	Low
1071: Koyen-----	---	---	---	---	0	---	Low	High	Low
1073: Koyen-----	---	---	---	---	0	---	Low	High	Low
Colval-----	---	---	---	---	0	---	Moderate	Moderate	Low
1074: Koyen-----	---	---	---	---	0	---	Low	High	Low
Slaw-----	---	---	---	---	0	---	Low	High	High
Penoyer-----	---	---	---	---	0	---	Moderate	High	Low
1075: Koyen-----	---	---	---	---	0	---	Low	High	Low
Penoyer-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1076: Koyen-----	---	---	---	---	0	---	Low	High	Low
Geer-----	---	---	---	---	0	---	Low	High	Low
1080: Slaw-----	---	---	---	---	0	---	Moderate	High	High
1081: Slaw-----	---	---	---	---	0	---	Moderate	High	High
Sycomat-----	---	---	---	---	0	---	Low	High	Low
1084: Slaw-----	---	---	---	---	0	---	Low	High	High
Penoyer-----	---	---	---	---	0	---	Moderate	High	Low
1085: Colval-----	---	---	---	---	0	---	Moderate	Moderate	Low
Slaw-----	---	---	---	---	0	---	Low	High	High
Colval-----	---	---	---	---	0	---	Moderate	Moderate	Low
1086: Slaw-----	---	---	---	---	0	---	Low	High	High
Slaw-----	---	---	---	---	0	---	Low	High	High
Colval-----	---	---	---	---	0	---	Moderate	Moderate	Low
1087: Glotrain-----	---	---	---	---	0	---	Low	Moderate	Low
Koyen-----	---	---	---	---	0	---	Low	High	Low
1088: Radol-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Low	Low
Eaglepass-----	Lithic bedrock	4-6	---	Indurated	0	---	Moderate	High	Low
Monarch-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	High	Low
1090: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Eaglepass-----	Lithic bedrock	4-6	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1091: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Eaglepass-----	Lithic bedrock	4-6	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1093: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Logring-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1095: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Moderate	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1096: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Lodar-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
1100: Linoyer-----	---	---	---	---	0	---	Low	High	Moderate
Heist-----	---	---	---	---	0	---	Moderate	High	Low
1103: Patter-----	---	---	---	---	0	---	Low	High	Moderate
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
1104: Colval-----	---	---	---	---	0	---	Moderate	Moderate	Low
Penoyer-----	---	---	---	---	0	---	Moderate	High	Low
1106: Patter-----	---	---	---	---	0	---	Low	High	Moderate
Linco-----	---	---	---	---	0	---	Moderate	High	Low
1110: Nuhelen-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1111: Nuhelen-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	Moderate	Low
Farepeak-----	Lithic bedrock	10-14	---	Indurated	0	---	Moderate	Low	Low
1113: Farepeak-----	Lithic bedrock	10-14	---	Indurated	0	---	Moderate	Low	Low
Slockey-----	Paralithic bedrock	20-39	---	Moderately cemented	0	---	Moderate	Moderate	Low
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
1114: Slockey-----	Paralithic bedrock	20-39	---	Moderately cemented	0	---	Moderate	Moderate	Low
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1115: Nuhelen-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
Newvil-----	Duripan	15-20	4-17	Indurated	0	---	High	High	Low
1120: Watoopah-----	---	---	---	---	0	---	Moderate	High	Low
Chuckmill-----	Duripan	14-20	4-17	Indurated	0	---	Low	High	Moderate
1130: Handpah-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
Chuckridge-----	Duripan	7-14	4-17	Indurated	0	---	Moderate	High	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1131: Handpah-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
Watoopah-----	---	---	---	---	0	---	Moderate	High	Low
Littleailie-----	Duripan	14-20	15-40	Indurated	0	---	Low	Moderate	Low
1132: Handpah-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
Veet-----	---	---	---	---	0	---	Moderate	High	Low
1133: Lojet-----	Duripan	20-39	---	Indurated	0	---	Low	Moderate	Low
Qwynn-----	---	---	---	---	0	---	Low	Moderate	Low
Littleailie-----	Duripan	14-20	15-40	Indurated	0	---	Low	Moderate	Low
1134: Lojet-----	Duripan	20-39	---	Indurated	0	---	Low	Moderate	Low
Chuckmill-----	Duripan	7-14	4-17	Indurated	0	---	Low	---	---
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
1138: Littleailie-----	Duripan	14-20	15-40	Indurated	0	---	Low	Moderate	Low
Lien-----	Duripan	6-14	---	Indurated	0	---	Moderate	High	Low
	Duripan	18-33	---	Weakly cemented					
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
1140: Cowgil-----	---	---	---	---	0	---	Moderate	High	Low
Yody-----	Duripan	30-39	---	Strongly cemented	0	---	Moderate	High	Low
Fax-----	Duripan	20-36	4-17	Strongly cemented	0	---	Moderate	High	Low
1150: Zoda-----	Duripan	20-40	---	Strongly cemented	0	---	Low	Low	Low
Cath-----	---	---	---	---	0	---	Moderate	High	Low
1151: Watoopah-----	---	---	---	---	0	---	Moderate	High	Low
Zoda-----	Duripan	20-40	---	Strongly cemented	0	---	Low	Low	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
1154: Qwynn-----	---	---	---	---	0	---	Low	Moderate	Low
Ragnel-----	---	---	---	---	0	---	Low	High	Low
1160: Silent-----	Duripan	10-20	4-17	Indurated	0	---	Low	High	Low
Koyen-----	---	---	---	---	0	---	Low	High	Low
1170: Haunchee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Hardol-----	---	---	---	---	0	---	Moderate	High	Low
Xine-----	Paralithic bedrock	20-39	---	Moderately cemented	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
		In	In		In	In			
1171: Haunchee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Hardzem-----	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1172: Haunchee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Wardbay-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
Hardzem-----	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Low
1180: Eoj-----	---	---	---	---	0	---	Moderate	High	Low
Eoj-----	---	---	---	---	0	---	Moderate	High	Low
McIvey-----	---	---	---	---	0	---	Moderate	Moderate	Low
1190: Pookaloo-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	High	Low
Cavehill-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1200: Urmafot-----	Duripan	9-20	4-17	Indurated	0	---	Moderate	High	Low
Bobs-----	Petrocalcic	10-20	4-17	Indurated	0	---	Moderate	High	Low
Palinor-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
1210: Palinor-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
1211: Palinor-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
Urmafot-----	Duripan	9-20	4-17	Indurated	0	---	Moderate	High	Low
Urmafot-----	Duripan	9-20	4-17	Indurated	0	---	Moderate	High	Low
1212: Palinor-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
Yody-----	Duripan	30-39	---	Strongly cemented	0	---	Moderate	High	Low
Broland-----	Duripan	14-20	---	Strongly cemented	0	---	Moderate	High	Low
1215: Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Jarab-----	Duripan	10-20	---	Indurated	0	---	Moderate	High	Low
1220: Lien-----	Duripan	6-14	---	Indurated	0	---	Moderate	High	Low
	Duripan	18-33	---	Weakly cemented					
Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
1230: Yotes-----	---	---	---	---	0	---	Moderate	High	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
		In	In		In	In			
1231: Newvil-----	Duripan	15-20	4-17	Indurated	0	---	High	High	Low
Nevu-----	Duripan	20-27	4-17	Indurated	0	---	Moderate	High	Low
Ponyspring-----	---	---	---	---	0	---	Low	Moderate	Low
1232: Nevu-----	Duripan	20-27	4-17	Indurated	0	---	Moderate	High	Low
Ponyspring-----	---	---	---	---	0	---	Low	Moderate	Low
Okayview-----	Paralithic bedrock	10-20	---	Moderately cemented	0	---	Low	Low	Low
1240: Sycomat-----	---	---	---	---	0	---	Low	High	Low
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
Gravier-----	---	---	---	---	0	---	Low	High	Low
1270: Heusser-----	---	---	---	---	0	---	Low	Moderate	Low
Wambolt-----	---	---	---	---	0	---	Moderate	Moderate	Low
1280: Badena-----	---	---	---	---	0	---	Moderate	Moderate	Low
1291: Zimbob-----	Lithic bedrock	10-14	---	Indurated	0	---	Moderate	High	Low
Pookaloo-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	High	Low
Cavehill-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	High	Low
1300: Picche-----	Lithic bedrock	6-15	---	Indurated	0	---	Low	Moderate	Low
Birchcreek-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	Moderate	Low
Cropper-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
1307: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
Eaglepass-----	Lithic bedrock	4-6	---	Indurated	0	---	Moderate	High	Low
1310: Duffer-----	---	---	---	---	0	---	High	High	High
Duffer-----	---	---	---	---	0	---	High	High	High
Kolda-----	---	---	---	---	0	---	High	High	High
1320: Broland-----	Duripan	14-20	---	Strongly cemented	0	---	Moderate	High	Low
Yody-----	Duripan	30-39	---	Strongly cemented	0	---	Moderate	High	Low
1330: Amelar-----	---	---	---	---	0	---	Moderate	High	Low
Eoj-----	---	---	---	---	0	---	Moderate	High	Low
Hardol-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1340: Heist-----	---	---	---	---	0	---	Moderate	High	Moderate
Heist-----	---	---	---	---	0	---	Moderate	High	Moderate
1350: Heist-----	---	---	---	---	0	---	Moderate	High	Moderate
Chuffa-----	---	---	---	---	0	---	Low	High	Low
1359: Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
Gardenvalley-----	---	---	---	---	0	---	Low	High	Low
Qwynn-----	---	---	---	---	0	---	Low	Moderate	Low
1360: Veet-----	---	---	---	---	0	---	Moderate	High	Low
Armespan-----	---	---	---	---	0	---	Moderate	Moderate	Low
1362: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
1370: Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Moderate	Low
Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
1380: Cavehill-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Cavehill-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1381: Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Armespan-----	---	---	---	---	0	---	Moderate	High	Low
1382: Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Medburn-----	---	---	---	---	0	---	Moderate	High	Moderate
1384: Cavehill-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	High	Low
Haunchee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Cavehill-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	High	Low
1386: Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Eastmore-----	Duripan	10-20	4-17	Strongly cemented	0	---	Low	High	Low
1388: Eastmore-----	Duripan	10-20	4-17	Strongly cemented	0	---	Low	High	Low
Summermute-----	---	---	---	---	0	---	Low	High	Low
Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
1400:		In	In		In	In			
Suak-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Moderate	Low
Segura-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	High	Low
McIvey-----	---	---	---	---	0	---	Moderate	Moderate	Low
1430:									
Hardzem-----	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Low
Hackwood-----	---	---	---	---	0	---	Moderate	Moderate	Low
Guiser-----	---	---	---	---	0	---	Moderate	Moderate	Low
1435:									
Haunchee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1470:									
Tybo-----	Duripan	8-20	4-17	Indurated	0	---	Low	High	Low
Koyen-----	---	---	---	---	0	---	Low	High	Low
1473:									
Tybo-----	Duripan	8-20	4-17	Indurated	0	---	Low	High	Low
Leo-----	---	---	---	---	0	---	Low	High	Low
1475:									
Treadwell-----	Duripan	4-10	20-40	Indurated	0	---	Moderate	Low	Low
Treadwell-----	Duripan	4-10	20-40	Indurated	0	---	Moderate	Low	Low
Veet-----	---	---	---	---	0	---	Moderate	High	Low
1485:									
Monarch-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	High	Low
Highup-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	Moderate	Low
Eganroc-----	Lithic bedrock	30-40	---	Indurated	0	---	Moderate	High	Low
1501:									
Radol-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Low	Low
Monarch-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	High	Low
Highup-----	Lithic bedrock	20-39	---	Indurated	0	---	Moderate	Moderate	Low
1502:									
Lodar-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
Logring-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1510:									
Ursine-----	Duripan	14-20	4-17	---	0	---	Moderate	High	Moderate
Jarab-----	Duripan	10-20	---	Indurated	0	---	Moderate	High	Low
Pamsdel-----	Duripan	14-20	---	Indurated	0	---	Moderate	Moderate	Low
1525:									
Ubehebe-----	Paralithic bedrock	14-20	---	Moderately cemented	0	---	Moderate	High	Low
Penelas-----	Paralithic bedrock	5-14	---	Moderately cemented	0	---	Moderate	High	Low
Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1700: Garfan-----	---	---	---	---	0	---	Low	High	Low
Garfan-----	---	---	---	---	0	---	Low	High	Low
McIvey-----	---	---	---	---	0	---	Moderate	Moderate	Low
1701: Suak-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Moderate	Low
Chen-----	Lithic bedrock	12-20	---	Indurated	0	---	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1730: Qwynn-----	---	---	---	---	0	---	Low	Moderate	Low
Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
1731: Cath-----	---	---	---	---	0	---	Moderate	High	Low
Chuckridge-----	Duripan	7-14	4-17	Indurated	0	---	Moderate	High	Low
1732: Cath-----	---	---	---	---	0	---	Moderate	High	Low
Watoopah-----	---	---	---	---	0	---	Moderate	High	Low
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
1733: Cath-----	---	---	---	---	0	---	Moderate	High	Low
Watoopah-----	---	---	---	---	0	---	Moderate	High	Low
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
1810: Boxspring-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1880: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Pintwater-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1881: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1882: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
1885: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
1900: Eaglepass-----	Lithic bedrock	4-6	---	Indurated	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
Rock outcrop-----	---	In ---	In ---	---	In ---	In ---	---	---	---
Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Moderate	Low
1910: Radol-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Low	Low
Lodar-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
1920: Eganroc-----	Lithic bedrock	30-40	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
Radol-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Low	Low
1922: Lodar-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
Eaglepass-----	Lithic bedrock	4-6	---	Indurated	0	---	Moderate	High	Low
Radol-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Low	Low
1930: Nuhelen-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1940: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1942: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
1945: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
1946: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1948: Farepeak-----	Lithic bedrock	10-14	---	Indurated	0	---	Moderate	Low	Low
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1949: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
1955: Treadwell-----	Duripan	4-10	20-40	Indurated	0	---	Moderate	Low	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
Chuckridge-----	Duripan	In 7-14	In 4-17	Indurated	In 0	In ---	Moderate	High	Low
Handpah-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Low
1957: Malmesa-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	High	Low
	Duripan	14-20	0-3	Indurated					
Nevoyer-----	Duripan	8-18	0-2	Indurated	0	---	Low	High	Low
	Lithic bedrock	9-20	---	Indurated					
Treadwell-----	Duripan	4-10	20-40	Indurated	0	---	Moderate	Low	Low
1958: Nevoyer-----	Duripan	8-18	0-2	Indurated	0	---	Low	High	Low
	Lithic bedrock	9-20	---	Indurated					
Lomoine-----	Lithic bedrock	4-14	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1959: Rock outcrop-----	---	---	---	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---	---	---	---
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
1960: Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
1989: Gabbvally-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
1990: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2000: Playas-----	---	---	---	---	0	---	None	High	High
2010: Chuffa-----	---	---	---	---	0	---	Low	High	Low
Chuffa-----	---	---	---	---	0	---	Low	High	Low
2020: Yobe-----	---	---	---	---	0	---	High	High	High
Yobe-----	---	---	---	---	0	---	High	High	High
2030: Teebone-----	---	---	---	---	0	---	High	High	High
Yobe-----	---	---	---	---	0	---	High	High	High
2041: Kolda-----	---	---	---	---	0	---	High	High	High
Duffer-----	---	---	---	---	0	---	High	High	High
2050: Ragnel-----	---	---	---	---	0	---	Low	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
2060: Crestline-----	---	---	---	---	0	---	Low	High	Moderate
Crestline-----	---	---	---	---	0	---	Low	High	Moderate
Veet-----	---	---	---	---	0	---	Moderate	High	Low
2061: Crestline-----	---	---	---	---	0	---	Low	High	Moderate
Linoyer-----	---	---	---	---	0	---	Low	High	Moderate
2071: Chuffa-----	---	---	---	---	0	---	Low	High	Low
Linoyer-----	---	---	---	---	0	---	Low	High	Moderate
Playas-----	---	---	---	---	0	---	None	High	High
2100: Glotrain-----	---	---	---	---	0	---	Low	Moderate	Low
Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
2120: Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
Devildog-----	---	---	---	---	0	---	Low	Moderate	Low
2122: Lojet-----	Duripan	20-39	---	Indurated	0	---	Low	Moderate	Low
Littleailie-----	Duripan	14-20	15-40	Indurated	0	---	Low	Moderate	Low
2123: Littleailie-----	Duripan	14-20	15-40	Indurated	0	---	Low	Moderate	Low
Lojet-----	Duripan	20-39	---	Indurated	0	---	Low	Moderate	Low
2280: Granquin-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	Moderate	Low
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Starflyer-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
2283: Rock outcrop-----	---	---	---	---	---	---	---	---	---
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
2284: Starflyer-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
Starflyer-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
2285: Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Starflyer-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
2286: Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2287: Granquin-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	Moderate	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
Rock outcrop-----	---	In ---	In ---	---	In ---	In ---	---	---	---
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
2288: Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Granquin-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2290: Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2292: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
2296: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
2297: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2298: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Richinde-----	Lithic bedrock	14-20	---	Indurated	0	---	Low	Moderate	Low
Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
2299: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2301: Stewval-----	Lithic bedrock	4-14	---	Indurated	0	---	Moderate	Moderate	Low
Gabbvally-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	Moderate	Low
2302: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Nuhelen-----	Lithic bedrock	7-14	---	Indurated	0	---	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2304: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
2305: Chubard-----	Lithic bedrock	6-14	---	Indurated	0	---	Low	Moderate	Low
Littleailie-----	Duripan	14-20	15-40	Indurated	0	---	Low	Moderate	Low
Devildog-----	---	---	---	---	0	---	Low	Moderate	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
2311: Cliffdown-----	---	---	---	---	0	---	Low	High	High
2312: Fang-----	---	---	---	---	0	---	Low	High	Low
Nyala-----	---	---	---	---	0	---	Low	High	Low
2320: Blackcan-----	Duripan	14-20	20-50	Indurated	0	---	Moderate	Low	Low
Blackcan-----	Duripan	14-20	20-50	Indurated	0	---	Moderate	Low	Low
3010: Anaud-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
Cagas-----	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
3036: Kyler-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Amtoft-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
Rock outcrop-----	---	---	---	---	---	---	---	---	---
3170: Linoyer-----	---	---	---	---	0	---	Low	High	Moderate
Escalante-----	---	---	---	---	0	---	Moderate	High	Low
3190: Penoyer-----	---	---	---	---	0	---	Moderate	High	Low
Geer-----	---	---	---	---	0	---	Low	High	Low
3192: Saltydog-----	---	---	---	---	0	---	Moderate	Moderate	Low
Ambush-----	---	---	---	---	0	---	Moderate	Moderate	Low
Panacker-----	---	---	---	---	0	---	Moderate	High	Low
3193: Ewelac-----	---	---	---	---	0	---	High	High	High
Playas-----	---	---	---	---	0	---	None	High	High
3194: Ambush-----	---	---	---	---	0	---	Moderate	Moderate	Low
Panacker-----	---	---	---	---	0	---	Moderate	Low	High
Playas-----	---	---	---	---	0	---	None	High	High
3196: Saltydog-----	---	---	---	---	0	---	Moderate	Moderate	Low
Geer-----	---	---	---	---	0	---	Low	High	Low
3198: Ambush-----	---	---	---	---	0	---	Moderate	Moderate	Low
Penoyer-----	---	---	---	---	0	---	Moderate	High	Low
3221: Rouette-----	Duripan	10-20	4-17	Strongly cemented	0	---	Moderate	High	Low
Ursine-----	Duripan	14-20	4-17	Indurated	0	---	Moderate	High	Moderate
Escalante-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
Kyler-----	Lithic bedrock	In 6-14	In ---	Indurated	In 0	In ---	Moderate	High	Low
3675: Radol-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Low	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
Lodar-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Moderate
3700: Leo-----	---	---	---	---	0	---	Low	High	Low
Delamar-----	Duripan	20-40	4-17	Indurated	0	---	Low	High	Low
3701: Leo-----	---	---	---	---	0	---	Low	High	Low
Tybo-----	Duripan	8-20	4-17	---	0	---	Low	High	Low
3860: Hyzen-----	Lithic bedrock	6-14	---	Indurated	0	---	Moderate	High	Low
Eganroc-----	Lithic bedrock	30-40	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---	---	---
3870: Newvil-----	Duripan	15-20	4-17	Indurated	0	---	High	High	Low
Chuckmill-----	Duripan	7-14	4-17	Indurated	0	---	Low	High	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
3871: Newvil-----	Duripan	15-20	4-17	Indurated	0	---	High	High	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
3880: Nevu-----	Duripan	20-27	4-17	Indurated	0	---	Moderate	High	Low
Okayview-----	Paralithic bedrock	10-20	---	Moderately cemented	0	---	Low	Moderate	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
3890: Anaud-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
3892: Slockey-----	Paralithic bedrock	20-39	---	Moderately cemented	0	---	Moderate	Moderate	Low
Hamtah-----	---	---	---	---	0	---	Moderate	Moderate	Low
Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
3894: Schoolmarm-----	Lithic bedrock	10-14	---	Indurated	0	---	Low	Low	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
4001: Modem-----	Duripan	10-20	20-50	Indurated	0	---	Low	Low	Low
Newvil-----	Duripan	10-20	---	Indurated	0	---	Moderate	High	Low
Sevenmile-----	---	---	---	---	0	---	Moderate	High	Low
4002: Jarab-----	Duripan	10-20	---	Indurated	0	---	Moderate	High	Low
Ravendog-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 12.--SOIL FEATURES

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness	Hardness	Initial		Total	Uncoated steel	Concrete
Eganroc-----	Lithic bedrock	In 30-40	In ---	Indurated	In 0	In ---	Moderate	High	Low
4040: Farepeak-----	Lithic bedrock	10-14	---	Indurated	0	---	Moderate	Low	Low
Hamtah-----	---	---	---	---	0	---	Moderate	Moderate	Low
Starflyer-----	Lithic bedrock	14-20	---	Indurated	0	---	Moderate	Moderate	Low
5021: Atlanta-----	---	---	---	---	0	---	Moderate	High	Moderate
Escalante-----	---	---	---	---	0	---	Moderate	High	Low

TABLE 13.--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
Ambush-----	Coarse-loamy, mixed, superactive, mesic Petronodic Haplocalcids
Amelar-----	Loamy-skeletal, mixed, superactive, frigid Calcic Argixerolls
Amtoft-----	Loamy-skeletal, carbonatic, mesic Lithic Xeric Haplocalcids
Anaud-----	Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls
Armespan-----	Loamy-skeletal, mixed, superactive, mesic Durinodic Xeric Haplocalcids
Atlanta-----	Coarse-loamy, mixed, superactive, mesic Xeric Haplocalcids
Badena-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls
Bigspring-----	Fine-loamy, mixed, superactive, mesic Aridic Calcixerolls
Birchcreek-----	Clayey-skeletal, smectitic, frigid Typic Argixerolls
Blackcan-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplodurids
Bobs-----	Loamy, carbonatic, frigid, shallow Petrocalcic Palexerolls
Boxspring-----	Loamy-skeletal, carbonatic, mesic Lithic Ustic Torriorthents
Broland-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haploxeralfic Argidurids
Buzztail-----	Loamy-skeletal, carbonatic, frigid Lithic Haploxerolls
Cagas-----	Ashy-skeletal, glassy, frigid Vitritorrandic Argixerolls
Cath-----	Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids
Cavehill-----	Loamy-skeletal, carbonatic, frigid Typic Calcixerolls
Chen-----	Clayey-skeletal, smectitic, frigid Lithic Argixerolls
Chubard-----	Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids
Chuckmill-----	Ashy, glassy, mesic, shallow Vitrikerandic Argidurids
Chuckridge-----	Loamy, mixed, superactive, mesic, shallow Xeric Argidurids
Chuffa-----	Fine-silty, mixed, superactive, mesic Xeric Haplocambids
Cliffdown-----	Loamy-skeletal, mixed, superactive, calcareous, mesic Typic Torriorthents
Colval-----	Fine-silty, mixed, superactive, mesic Durinodic Calciargids
Cowgill-----	Loamy-skeletal, mixed, superactive, mesic Xeric Haplargids
Crestline-----	Coarse-loamy, mixed, superactive, mesic Xeric Haplocalcids
Cropper-----	Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls
Delamar-----	Fine-loamy, mixed, superactive, mesic Typic Argidurids
Devildog-----	Loamy-skeletal, mixed, superactive, mesic Vitrikerandic Haplocambids
Duffer-----	Fine-silty, carbonatic, mesic Aquic Haplocalcids
Eaglepass-----	Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents
Eastmore-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xereptic Haplodurids
Eganroc-----	Loamy-skeletal, mixed, superactive Calcic Pachic Haplocryolls
Eoj-----	Fine, smectitic, frigid Typic Palexerolls
Escalante-----	Coarse-loamy, mixed, superactive, mesic Xeric Haplocalcids
Ewelac-----	Fine, smectitic, mesic Vertic Haplocambids
Fang-----	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents
Farepeak-----	Ashy-skeletal, glassy, frigid Lithic Argixerolls
Fax-----	Loamy-skeletal, mixed, superactive, mesic Argidic Durixerolls
Gabbvally-----	Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids
Gardenvalley-----	Coarse-loamy, mixed, superactive, mesic Durinodic Haplocambids
Garfan-----	Clayey-skeletal, smectitic, frigid Xeric Paleargids
Geer-----	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents
Glotrain-----	Coarse-loamy, mixed, superactive, mesic Typic Haplargids
Granquin-----	Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls
Gravier-----	Loamy-skeletal, mixed, superactive, mesic Sodic Haplocalcids
Greatday-----	Fine-loamy, mixed, superactive, mesic Petronodic Xeric Haplocalcids
Guiser-----	Loamy-skeletal, mixed, superactive Xerollic Haplocryalfs
Hackwood-----	Fine-loamy, mixed, superactive Pachic Haplocryolls
Hamtah-----	Clayey-skeletal, smectitic, frigid Vitrandic Argixerolls
Handpah-----	Loamy, mixed, superactive, mesic, shallow Xeric Argidurids
Hardol-----	Loamy-skeletal, carbonatic Pachic Calcicryolls
Hardzem-----	Loamy-skeletal, mixed, superactive Xeric Haplocryalfs
Haunchee-----	Loamy-skeletal, carbonatic Lithic Cryrendolls
Heist-----	Coarse-loamy, mixed, superactive, mesic Xeric Haplocambids
Heusser-----	Clayey-skeletal, smectitic, frigid Aridic Palexerolls
Highup-----	Loamy-skeletal, carbonatic, frigid Typic Calcixerolls
Hyzen-----	Loamy-skeletal, carbonatic, frigid Lithic Haploxerolls
Jarab-----	Loamy-skeletal, mixed, superactive, mesic, shallow Haploduridic Durixerolls
Kolda-----	Fine, smectitic, calcareous, mesic Typic Endoaquolls
Koyen-----	Coarse-loamy, mixed, superactive, mesic Typic Haplocambids
Kunzler-----	Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocalcids
Kyler-----	Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents
Leo-----	Sandy-skeletal, mixed, mesic Typic Torriorthents
Lien-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplodurids
Linco-----	Coarse-loamy, mixed, superactive, calcareous, mesic Duric Torriorthents
Linoyer-----	Coarse-silty, mixed, superactive, calcareous, mesic Xeric Torriorthents
Littleallie-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Argidurids
Littlespring-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Haplocalcids
Lodar-----	Loamy-skeletal, carbonatic, mesic Lithic Calcixerolls
Lodring-----	Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

TABLE 13.--TAXONOMIC CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Lojet-----	Fine-loamy, mixed, superactive, mesic Xeric Argidurids
Lomoin-----	Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Xeric Torriorthents
Malmesa-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Argidurids
McIvey-----	Clayey-skeletal, smectitic, frigid Typic Argixerolls
Medburn-----	Coarse-loamy, mixed, superactive, calcareous, mesic Xeric Torriorthents
Mezzer-----	Loamy-skeletal, carbonatic, mesic Xeric Haplocambids
Modem-----	Ashy-skeletal, glassy, mesic, shallow Vitritorrandic Durixerolls
Monarch-----	Loamy-skeletal, carbonatic, frigid Lithic Calcixerolls
Nevoyer-----	Loamy, mixed, superactive, mesic, shallow Xeric Haplodurids
Nevu-----	Ashy, glassy, mesic Vitritorrandic Durixerolls
Newvil-----	Ashy, glassy, mesic, shallow Vitritorrandic Durixerolls
Nuhelen-----	Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls
Nyala-----	Fine-loamy, mixed, superactive, mesic Durinodic Haplargids
Okayview-----	Ashy, glassy, mesic, shallow Vitritorrandic Argixerolls
Palinor-----	Loamy-skeletal, carbonatic, mesic, shallow Xeric Haplodurids
Pamsdel-----	Loamy-skeletal, carbonatic, mesic, shallow Haploduridic Durixerolls
Panacker-----	Fine-loamy, mixed, semiactive, mesic Sodic Haplocalcids
Patter-----	Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocambids
Penelas-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplargids
Penoyer-----	Coarse-silty, mixed, superactive, calcareous, mesic Typic Torriorthents
Pintwater-----	Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Torriorthents
Pioche-----	Clayey-skeletal, smectitic, mesic Lithic Argixerolls
Ponyspring-----	Ashy, glassy, mesic Vitritorrandic Argixerolls
Pookaloo-----	Loamy-skeletal, carbonatic, mesic Lithic Xeric Haplocalcids
Qwynn-----	Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids
Radol-----	Loamy-skeletal, carbonatic, mesic Lithic Calcixerolls
Ragnel-----	Sandy-skeletal, mixed, mesic Xeric Haplocambids
Ravendog-----	Coarse-loamy, mixed, superactive, mesic Torrifluventic Haploxerolls
Richinde-----	Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids
Rouette-----	Loamy, mixed, superactive, mesic, shallow Xereptic Haplodurids
Saltydog-----	Fine-loamy, mixed, active, mesic Sodic Haplocalcids
Schoolmarm-----	Ashy-skeletal, glassy, frigid Lithic Argixerolls
Segura-----	Loamy, mixed, superactive, frigid Lithic Argixerolls
Sevemmile-----	Coarse-loamy, isotic, mesic Vitritorrandic Haploxerolls
Silent-----	Loamy, mixed, superactive, mesic, shallow Typic Argidurids
Slaw-----	Fine-silty, mixed, superactive, calcareous, mesic Typic Torrifluvents
Slockey-----	Ashy-skeletal, glassy, frigid Vitritorrandic Argixerolls
Starflyer-----	Ashy-skeletal, glassy, frigid Lithic Argixerolls
Stewval-----	Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids
Suak-----	Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls
Summermute-----	Loamy-skeletal, carbonatic, mesic Durinodic Haplocalcids
Sycomat-----	Coarse-loamy, mixed, active, mesic Durinodic Haplocalcids
Teebone-----	Fine, smectitic, mesic Vertic Haplocalcids
Threedogs-----	Fine-loamy, mixed, superactive, mesic Typic Calciargids
Treadwell-----	Loamy-skeletal, mixed, superactive, mesic, shallow Typic Haplodurids
Tybo-----	Loamy, mixed, superactive, mesic, shallow Typic Haplodurids
Ubehebe-----	Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Argixerolls
Urmafot-----	Loamy, mixed, superactive, mesic, shallow Haploduridic Durixerolls
Ursine-----	Loamy-skeletal, carbonatic, mesic, shallow Xeric Haplodurids
Veet-----	Loamy-skeletal, mixed, superactive, mesic Xeric Haplocambids
Wambolt-----	Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls
Wardbay-----	Loamy-skeletal, carbonatic, frigid Pachic Calcixerolls
Watopah-----	Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids
Xine-----	Loamy-skeletal, mixed, superactive, frigid Aridic Calcixerolls
Yobe-----	Fine-silty, mixed, superactive, calcareous, mesic Aeric Halaquepts
Yody-----	Fine-loamy, mixed, superactive, mesic Haploxeralfic Argidurids
Yotes-----	Ashy, glassy, mesic Vitritorrandic Haploxerolls
Zafod-----	Loamy-skeletal, mixed, active, mesic Xereptic Haplodurids
Zimbob-----	Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents
Zoda-----	Ashy, glassy, mesic Haploxeralfic Argidurids

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