United States Department of Agriculture

Natural Resources Conservation Service

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

Soil Survey of Elko County, Nevada, Northeast Part

Part I

How To Use This Soil Survey

This survey is divided into three parts. Part I includes general information about the survey area; descriptions of the detailed soil map units and soil series in the area; and a description of how the soils formed. Part II describes the use and management of the soils and the major soil properties. Part III 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 **State Soil Geographic Database (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 multicounty planning, and map output can be tailored for a specific use. More information about the State Soil Geographic Database for this survey area, or any portion of Nevada, is available at the local office of the Natural Resources Conservation Service.

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 Thus, as older published interpretive information becomes outdated, new interpretive data must be generated and tailored to local conditions.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 State Subset of the **Map Unit Interpretation Record (MUIR)** database as needed. Map Unit Interpretation Records are the soil survey specific data and interpretations in the state soil survey database.

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 has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1990. Soil names and descriptions were approved in 1990. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1990. This survey was made cooperatively by the Natural Resources Conservation Service and the U.S. Department of Interior, Bureau of Land Management, and University of Nevada Agricultural Experiment Station. It is part of the technical assistance furnished to the Lincoln County Conservation District.

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

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Part II

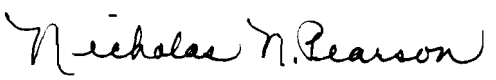
Foreword

This soil survey contains information that can be used in land-planning programs in Elko County, Nevada, Northeast part. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

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

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

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



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Soil Survey of Elko County, Nevada, Northeast Part

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United States Department of Agriculture, Natural Resources Conservation Service,
and United States Department of Interior, Bureau of Land Management
in cooperation with the University of Nevada Agricultural Experiment Station

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted 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.

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

General Nature of the Survey Area

This section gives general information about the survey area. It briefly discusses history; industries, transportation, and recreation; physiography, drainage, and geology; and climate.

History

This area was originally inhabited by the tribes of the Shoshone Indians. Fur trappers first passed through this area in 1828 on their return trips from the Sierra Nevadas. Many emigrants passed south of the survey area in the 1830's and 1840's until 1850, when the Overland Trail was established and people began to travel through and settle into the area. The Trail followed Goose Creek down to Thousand Springs (which became a major winter camp for many emigrants), then along Bishop Creek and into Wells. From Wells, the Trail followed westward along the Humboldt River.

The Overland Trail opened the door to communications from the east to the west, by 1851 the first mail service entered Nevada using the Trail as its main route to California.

Sheep ranching was the first livestock industry to get its start in the area. In 1852, the sheep were herded to California across the Overland Trail. From 1865-1880 supply and demand reversed and many sheep were herded back along the Trail to the markets back east. By this time, many stockmen had settled in the area and the sheep became a common sight on the rangeland.

The cattle industry was not far behind. In 1854, Thousand Springs became a major "trading post" where emigrants could trade their tired, hungry cattle for fresh and fattened cattle to continue their journey to California. This proved to be very successful for the stockmen in the area. Also, herds were being driven north from Texas and Mexico, and when it was discovered that these "southern" cattle could survive the winters here, stockmen began to settle in the area. By 1880, permanent herds of cattle had joined the sheep on the rangeland.

In 1870, a mining camp called Contact was built to accommodate the gold, silver, and copper mines of the surrounding area. But, like many mining camps of northeast Nevada, Contact died when the mines were closed.

Just north of Wells, an agricultural empire was to be created in the early 1900's. The city of Metropolis was developed in the midst of 40,000 acres of cultivated fields, but when the developers lost the water rights in a law suit, the city, like the mining towns, vanished.

The communities created by the railroads prospered much longer. Montello became a freight center for the Southern Pacific Railroad in 1902, and

continues to serve the existing railroads. Tecoma was opened by the Central Pacific Railroad as a shipping town for the Tecoma mines, and it remained opened until the 1960's.

Perhaps the youngest, and the most prosperous community of this survey area is Jackpot, which opened as a casino in 1956. The Horseshu Club was the first casino, followed by Cactus Pete's. The name, Jackpot, was not given to the town until 1959. The town has expanded rapidly since its birth. It is a major tourist attraction for northeast Nevada.

Industry, Transportation, and Recreation

The main industries in the survey area are ranching and mining.

The ranches are dominantly cow-calf operations, usually weaning and selling the calves in the fall of the year. A few operations carry over yearling steers to be sold at a later date. There are a limited number of ranches that are cow-calf and sheep operations.

The crops grown are dominantly meadow hay with some small areas of alfalfa.

There has been some mining of gold, silver, and barite in the past, but at present there is little mining activity in the survey area.

The area is so sparsely settled that there is little need for improved roads. In summer and fall most of the survey area is accessible by dirt roads or jeep trails.

There are two main highways in the survey area. These are U.S. 93 which runs from Wells to Jackpot, and State Route 233 which runs northeast through Montello and Tecoma Valley.

The area is served by the Southern Pacific and Union Pacific Railroads.

Physiography, Drainage, and Geology

The northwestern quarter of the survey area including O'Neil Basin is drained by Salmon Falls Creek and its tributaries. Salmon Falls Creek flows in a northerly direction into Idaho and the Salmon River outside of the survey area.

The northeastern corner of the survey area is drained by Goose Creek and its tributaries. Goose Creek flows in a northeasterly direction into Idaho and Oakley Reservoir where most of the water is used by agriculture.

The southern half of the survey area is drained by Thousand Springs Creek and its tributaries. Thousand Springs Creek flows east into Dake Reservoir. It then either evaporates or percolates into the ground in Utah outside of the survey area.

The southwestern corner of the survey area is drained by Bishop Creek and Tabor Creek and their tributaries. These creeks flow southwest into the Humboldt River outside of the survey area.

A small part of the extreme southern part of the survey area is drained by the Humboldt River and several small tributaries. The Humboldt River flows west of the Humboldt Sink outside the survey area.

The northern quarter of the survey area occurs within the Payette section of the Columbia Plateau Physiographic Province. In this area, the Columbia Plateau is characterized by broad plateau-like formations mainly comprised of welded and nonwelded silicic ash-flow tuffs and rhyolite. Typical soils derived from this material include the Ackett, Bluehill, Chayson, Chuska, Jackpot, Tomsherry, and Xerxes series.

The scattered hills and mountains in the Payette section in this area consist mainly of Permian limestone and dolomite, with smaller areas of Jurassic granitic rocks. Typical soils derived from this material are the Agort, Gollaher, Hapgood, and Xica series.

The valleys in the Payette section in this area consists of quaternary alluvial deposits. These deposits make up the floodplains and fan piedmonts. Typical soils formed in these deposits include the Devilsgait, Dewar, Donna, Enko, Peeko, and Sonoma series.

The southern three quarters of the survey area lies within the Basin and Range Physiographic Province. In this area, the Basin and Range is characterized by north trending, narrow mountain ranges which alternate with intervening basins and valleys.

The mountains are mainly comprised of lower Paleozoic to Permian limestone and dolostone. Typical soils formed in these rocks are the Amene, Amtoft, Belsac, Gollaher, and Nirac series.

Rocks such as quartzite, chert, siltstone, conglomerate, and argillite are found in lesser amounts in the mountains. These rocks range in age from Cambrian to Devonian. Typical soils found on these are Arcia, Cleavage, Hapgood, and Sumine series.

The hills in this area of the Basin and Range are mainly comprised of Tertiary welded and nonwelded silicic ash-flow tuffs with locally large areas of rhyolite and quartzite. Typical soils derived from this material are the Cobre, Hundraw, Izar, Pernty, and Puett series.

The valleys in this part of the Basin and Range are mainly composed of quaternary alluvial deposits and the Humboldt Formation. The Humboldt Formation consists of lake beds, ash, tuff, and clastic deposits laid down by streams. Typical soils found in these deposits are the Donna, Stampede, Hunnton, Wieland, Enko, and Peeko series.

There are internally drained basins in the Southeast part of the survey area. They are mainly comprised of fan piedmonts, alluvial flats, and lakeplains of quaternary clastic deposits, and lake sediments that are influenced by ancient Lake Bonneville. Typical soils formed in these deposits are the Gravier, Kawich, Luap, Ocala, Pibler, and Sondoa series.

Climate

Prepared in part by the National Climatic Center, Asheville, North Carolina.

In the Elko County, Northeast Part area, summers are hot, especially at lower elevations, and the winters are cold. Precipitation is normally light at lower elevations during all months of the year, and the land is mainly used for livestock grazing. At higher elevations, precipitation is much greater and snow accumulates to considerable depths. Some of the snowmelt irrigates crops and hay in nearby valleys.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Montello and Wells in the period 1939 to 1971. Table 2 shows probable dates of the first freeze in fall and the last freeze in the spring. Table 3 provides data on length of growing season.

Growing degree days, shown in Table 1, are equivalent to "heat units". Beginning in the spring, growing degree days accumulate by the amount the average temperature 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 of spring and the first freeze of fall.

The total annual precipitation is 7 inches at Montello and 10 inches at Wells. Of this, 40 to 50 percent usually falls in April through September. The growing season for most crops falls within this period. Thunderstorms occur on about 20 days each year, and most occur in summer.

The average seasonal snowfall is 40 to 80 inches. On an average of 20 to 30 days, at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 40 percent. Humidity is higher at night, and the average at dawn is about 70 percent. The sun shines 80 percent of the time in summer and 70 percent in winter. The prevailing wind is from the southwest. Average wind speed is highest, 7 miles per hour, in spring.

Detailed Soil Map Units

The map units on the detailed maps in Part III of this publication represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings "Use and Management of the Soils" and "Soil Properties."

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

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

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

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit. The principal hazards and limitations to be considered in planning for specific uses are identified in the tables and narrative in Part II.

Kinds of Map Units

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

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

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

associations. 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. Donna-Stampede association is an example.

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

Acreage and Extent

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

Headings and Introductory Phases

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

Composition is given for the components (soils or miscellaneous areas) identified in the name of the map unit as well as for the contrasting inclusions.

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

Map Unit Setting is given for the entire map unit. This section gives the position on the landscape. The landscape positions given for the entire map unit generally are broader than those given for each component. Below the map unit setting, the position of each component and inclusion is listed, and the physiographic location of each is identified.

Major Component Description lists the characteristics of the major components. These include elevation, texture of the surface layer, drainage class, parent material, and climatic data.

Dominant Present Vegetation lists the common plants growing on each soil at the present time. The present vegetation may be similar to the potential native plant community, but in some areas it consists of other plants, either cultivated or wild, that dominate the soils in the map unit.

Ecological Site is the assigned rangeland or grazed forest land ecological site that identifies a unique potential native plant community. The plant species and production typical of each ecological site are listed by map unit in the section "Rangeland Plants and Woodland Understory." Additional information about these sites is provided under the heading "Rangeland and Grazeable Woodland Resource Management" in Part II of this publication. Further information also can be obtained from the local office of the Natural Resources Conservation Service.

Map Unit Descriptions

010--Yuko-Akler association

Composition

Major Components

Yuko gravelly sandy loam, 15 to 50 percent slopes--55 percent

Akler loam, 8 to 15 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Wicup silty clay loam, 8 to 30 percent slopes--5 percent

Inclusion 2: Cotant gravelly clay loam, 15 to 50 percent slopes--4 percent

Inclusion 3: Lithic Torriorthents, loamy, mixed (calcareous), mesic very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills

Yuko--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south

Akler--Landform: Hills; geomorphic position: summit; shape of slope: plane

Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: north

Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: east
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description

Yuko Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface rock fragments: 5 percent cobbles; 25 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Akler Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Residuum derived from tuffaceous rocks

Dominant Present Vegetation

Yuko: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass
Akler: Sandberg bluegrass, low sagebrush
Inclusion 1: Sandberg bluegrass, Thurber needlegrass, big sagebrush
Inclusion 2: Idaho fescue, low sagebrush
Inclusion 3: Black sagebrush

Ecological Site

Yuko: 025XY015NV
Akler: 025XY018NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY017NV
Inclusion 3: 024XY030NV

020--Donna-Igdell-Vanwyper association

Composition

Major Components
Donna extremely cobbly clay loam, 4 to 15 percent slopes--55 percent
Igdell very gravelly clay loam, 4 to 15 percent slopes--15 percent
Vanwyper very stony loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Gochea loam, 2 to 4 percent slopes--4 percent
Inclusion 2: Stampede gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Chen very cobbly loam, 4 to 15 percent slopes--4 percent
Inclusion 4: Quarz very cobbly loam, 15 to 50 percent slopes--3 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Donna--Landform: Fan remnants; geomorphic position: summit
Igdell--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Vanwyper--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Donna Series
Elevation: 6,100 to 6,700 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 20 percent cobbles; 40 percent gravel
Surface layer texture: Extremely cobbly clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Igdell Series
Elevation: 6,100 to 6,700 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly clay loam

Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Vanwyper Series
Elevation: 6,100 to 6,700 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles
Surface layer texture: Very stony loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Dominant Present Vegetation

Donna: Sandberg bluegrass, low sagebrush
Igdell: Idaho fescue, Sandberg bluegrass, low sagebrush
Vanwyper: Wyoming big sagebrush, basin big sagebrush, basin wildrye, bluebunch wheatgrass
Inclusion 1: Nevada bluegrass, Wyoming big sagebrush
Inclusion 2: Nevada bluegrass, big sagebrush
Inclusion 3: Idaho fescue, low sagebrush
Inclusion 4: Basin wildrye, bluebunch wheatgrass

Ecological Site

Donna: 025XY022NV
Igdell: 025XY017NV
Vanwyper: 025XY015NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY017NV
Inclusion 4: 025XY009NV

021--Donna-Stampede association

Composition

Major Components
Donna gravelly loam, 2 to 8 percent slopes--65 percent
Stampede gravelly loam, 2 to 8 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Elocin gravelly silt loam, 2 to 8 percent slopes--8 percent
Inclusion 2: Durargidic Argixerolls, fine, montmorillonitic, frigid gravelly loam--6 percent
Inclusion 3: Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Donna--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Stampede--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope
Inclusion 3--Landform: Inset fans

Major Component Description

Donna Series
Elevation: 6,000 to 6,200 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Stampede Series
Elevation: 6,000 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Donna: Sandberg bluegrass, low sagebrush
Stampede: Wyoming big sagebrush, bluebunch wheatgrass, cheatgrass
Inclusion 1: Thurber needlegrass, low sagebrush
Inclusion 2: Thurber needlegrass, low sagebrush
Inclusion 3: Basin wildrye

Ecological Site

Donna: 025XY018NV
Stampede: 025XY014NV
Inclusion 1: 025XY018NV
Inclusion 2: 025XY018NV
Inclusion 3: 025XY003NV

022--Donna-Igdell-Donna, strongly sloping association

Composition

Major Components

Donna gravelly loam, 2 to 8 percent slopes--40 percent

Igdell very gravelly clay loam, 2 to 8 percent slopes--30 percent

Donna gravelly loam, 8 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Stampede gravelly loam, 2 to 8 percent slopes--6 percent

Inclusion 2: Crooked Creek silty clay loam, 0 to 4 percent slopes, occasionally flooded--1 percent

Inclusion 3: Durargidic Argixerolls, clayey-skeletal, montmorillonitic, frigid gravelly loam--8 percent

Map Unit Setting

Landscape position: Fan piedmonts

Donna--Landform: Fan remnants; geomorphic position: summit

Igdell--Landform: Fan remnants; geomorphic position: summit; position on slope: upper

Donna--Landform: Fan remnants; geomorphic position: backslope

Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Inclusion 2--Landform: Drainageways

Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex

Major Component Description

Donna Series

Elevation: 6,400 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Igdell Series

Elevation: 6,200 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Donna Series

Elevation: 6,200 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Donna: Bluebunch wheatgrass, low sagebrush

Igdell: Idaho fescue, low sagebrush

Donna: Bluebunch wheatgrass, low sagebrush

Inclusion 1: Nevada bluegrass, big sagebrush

Inclusion 2: Nevada bluegrass, alpine timothy

Inclusion 3: Thurber needlegrass, low sagebrush

Ecological Site

Donna: 025XY018NV

Igdell: 025XY017NV

Donna: 025XY018NV

Inclusion 1: 025XY014NV

Inclusion 2: 025XY006NV

Inclusion 3: 025XY018NV

023--Donna-Kleckner-Donna, strongly sloping association

Composition

Major Components

Donna gravelly loam, 2 to 8 percent slopes--40 percent

Kleckner gravelly loam, 4 to 15 percent slopes--25 percent

Donna gravelly loam, 8 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Stampede loam, 2 to 8 percent slopes--7 percent

Inclusion 2: Eboda loam, 4 to 15 percent slopes--4 percent

Inclusion 3: McIvey gravelly silt loam, 15 to 30 percent slopes--3 percent

Inclusion 4: Crooked Creek silty clay loam, 0 to 2

percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Donna--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Kleckner--Landform: Fan remnants; geomorphic position: backslope; aspect: north
Donna--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; aspect: north
Inclusion 4--Landform: Drainageways

Major Component Description

Donna Series
Elevation: 6,200 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kleckner Series
Elevation: 6,200 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Donna Series
Elevation: 6,200 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Donna: Alkali sagebrush, bluebunch wheatgrass, low sagebrush
Kleckner: Thurber needlegrass, big sagebrush
Donna: Alkali sagebrush, bluebunch wheatgrass, low sagebrush
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue
Inclusion 3: Idaho fescue
Inclusion 4: Alpine timothy, mat muhly

Ecological Site

Donna: 025XY018NV
Kleckner: 025XY014NV
Donna: 025XY018NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY012NV
Inclusion 4: 025XY005NV

031--Welch-Crooked Creek association, wet

Composition

Major Components
Welch silt loam, 0 to 2 percent slopes, occasionally flooded--45 percent
Crooked Creek silty clay loam, gravelly substratum, 0 to 2 percent slopes, frequently flooded--40 percent
Contrasting Inclusions
Inclusion 1: Welch silt loam, 0 to 2 percent slopes, frequently flooded--5 percent
Inclusion 2: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--5 percent
Inclusion 3: Crooked Creek silty clay loam, 0 to 2 percent slopes, occasionally flooded--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Welch--Landform: Flood plains
Crooked Creek--Landform: Flood plains
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains

Major Component Description

Welch Series
Elevation: 5,000 to 6,000 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days

Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Crooked Creek Series
Elevation: 5,000 to 6,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Welch: Nevada bluegrass, alpine timothy
Crooked Creek: Sedge
Inclusion 1: Nevada bluegrass, tufted hairgrass, willow
Inclusion 2: Basin big sagebrush, basin wildrye
Inclusion 3: Nevada bluegrass, alpine timothy, willow

Ecological Site

Welch: 025XY006NV
Crooked Creek: 025XY005NV
Inclusion 1: 025XY005NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY006NV

032--Welch-Kelk association

Composition

Major Components
Welch silty clay loam, 0 to 2 percent slopes, frequently flooded--60 percent
Kelk silt loam, 2 to 4 percent slopes, rarely flooded--30 percent
Contrasting Inclusions
Inclusion 1: Crooked Creek silty clay loam, 0 to 2 percent slopes, frequently flooded--5 percent
Inclusion 2: Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Welch--Landform: Flood plains
Kelk--Landform: Inset fans
Inclusion 1--Landform: Drainageways; shape of slope: concave
Inclusion 2--Landform: Alluvial flats

Major Component Description

Welch Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Welch: Nevada bluegrass, alpine timothy, sedge, tufted hairgrass
Kelk: Basin big sagebrush, basin wildrye, inland saltgrass, rubber rabbitbrush
Inclusion 1: Nevada bluegrass, willow
Inclusion 2: Alkali sacaton, black greasewood

Ecological Site

Welch: 025XY005NV
Kelk: 024XY006NV
Inclusion 1: 025XY005NV
Inclusion 2: 024XY007NV

034--Welch-Crooked Creek association, dry

Composition

Major Components
Welch loam, drained, 0 to 2 percent slopes, rarely flooded--65 percent
Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--20 percent
Contrasting Inclusions
Inclusion 1: Welch silty clay loam, 0 to 2 percent slopes, frequently flooded--8 percent
Inclusion 2: Welch silty clay loam, 0 to 2 percent slopes, occasionally flooded--5 percent
Inclusion 3: Cumulic Haplaquolls, loamy-skeletal, mixed, frigid silt loam--2 percent

Map Unit Setting

Landscape position: Intermontane basins

Welch--Landform: Flood plains
Crooked Creek--Landform: Flood plains
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Drainageways

Major Component Description

Welch Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface layer texture: Loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Crooked Creek Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Welch: Sandberg bluegrass, basin big sagebrush, basin wildrye
Crooked Creek: Sandberg bluegrass, basin big sagebrush, basin wildrye
Inclusion 1: Kentucky bluegrass, alpine timothy
Inclusion 2: Nevada bluegrass, alpine timothy
Inclusion 3: Sandberg bluegrass, basin wildrye

Ecological Site

Welch: 025XY003NV
Crooked Creek: 025XY003NV
Inclusion 1: 025XY005NV
Inclusion 2: 025XY006NV
Inclusion 3: 025XY003NV

035--Welch, drained-Welch-Gochea association

Composition

Major Components
Welch loam, drained, 0 to 2 percent slopes, 0 to 2 percent slopes--45 percent
Welch loam, gravelly substratum, 0 to 2 percent slopes, frequently flooded--25 percent
Gochea loam, 2 to 8 percent slopes--15 percent

Contrasting Inclusions
Inclusion 1: Welch loam, gravelly substratum, 0 to 2 percent slopes, occasionally flooded--5 percent
Inclusion 2: Durargidic Argixerolls, loamy-skeletal, mixed, frigid gravelly loam--5 percent
Inclusion 3: Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--3 percent
Inclusion 4: Riverwash--2 percent

Map Unit Setting

Landscape position: Intermontane basins
Welch--Landform: Flood plains
Welch--Landform: Flood plains
Gochea--Landform: Stream terraces
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Stream terraces
Inclusion 3--Landform: Flood plains
Inclusion 4--Landform: Drainageways

Major Component Description

Welch Series
Elevation: 5,600 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface layer texture: Loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Welch Series
Elevation: 5,600 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface layer texture: Loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gochea Series
Elevation: 5,600 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Welch: Basin big sagebrush, rubber rabbitbrush, sedge

Welch: Timothy
Gochea: Douglas rabbitbrush, Wyoming big sagebrush
Inclusion 1: Nevada bluegrass
Inclusion 2: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 3: Creeping wildrye, willow
Inclusion 4: None

Ecological Site

Welch: 025XY003NV
Welch: 025XY005NV
Gochea: 025XY014NV
Inclusion 1: 025XY006NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY001NV
Inclusion 4: none

040--McIvey-Quarz association

Composition

Major Components

McIvey gravelly loam, 30 to 50 percent slopes--50 percent
Quarz very gravelly loam, 15 to 50 percent slopes--40 percent

Contrasting Inclusions

Inclusion 1: McIvey gravelly silt loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Chen very gravelly loam, 15 to 30 percent slopes--4 percent
Inclusion 3: Crooked Creek silty clay, 0 to 2 percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Mountains and foothills
McIvey--Landform: Hills; geomorphic position: backslope; aspect: north
Quarz--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Mountains; geomorphic position: summit
Inclusion 3--Landform: Drainageways

Major Component Description

McIvey Series

Elevation: 6,200 to 7,100 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from sedimentary rocks

Quarz Series

Elevation: 6,200 to 7,100 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

McIvey: Idaho fescue, mountain big sagebrush, serviceberry, snowberry
Quarz: Bluebunch wheatgrass
Inclusion 1: Antelope bitterbrush
Inclusion 2: Low sagebrush
Inclusion 3: Alpine timothy

Ecological Site

McIvey: 025XY012NV
Quarz: 025XY009NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY005NV

060--Coser-Arva-Lerrow association

Composition

Major Components

Coser gravelly clay loam, 4 to 15 percent slopes--40 percent
Arva gravelly loam, 8 to 30 percent slopes--25 percent
Lerrow gravelly loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Xerollic Paleargids, very-fine, montmorillonitic, frigid silt loam--5 percent
Inclusion 2: Lerrow gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Quarz gravelly loam, 30 to 50 percent slopes--3 percent
Inclusion 4: McIvey very gravelly loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Coser--Landform: Hills; geomorphic position: summit
Arva--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Lerrow--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Coser Series
Elevation: 6,200 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Arva Series
Elevation: 6,200 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from sedimentary rocks

Lerrow Series
Elevation: 6,200 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Coser: Idaho fescue, low sagebrush
Arva: Idaho fescue, basin big sagebrush, bluebunch wheatgrass
Lerrow: Basin wildrye, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Bluebunch wheatgrass, low sagebrush
Inclusion 2: Basin big sagebrush, bluebunch wheatgrass
Inclusion 3: Antelope bitterbrush
Inclusion 4: Idaho fescue, antelope bitterbrush

Ecological Site

Coser: 025XY017NV
Arva: 025XY027NV
Lerrow: 025XY009NV
Inclusion 1: 025XY017NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY009NV
Inclusion 4: 025XY012NV

070--Stampede-Donna association

Composition

Major Components
Stampede gravelly loam, 4 to 15 percent slopes--65 percent
Donna gravelly loam, 2 to 8 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Kleckner gravelly loam, 4 to 15 percent slopes--7 percent
Inclusion 2: Crooked Creek silty clay, 0 to 2 percent slopes, frequently flooded--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Stampede--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Donna--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope
Inclusion 2--Landform: Drainageways

Major Component Description

Stampede Series
Elevation: 5,800 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam

Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Donna Series
Elevation: 5,800 to 6,200 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Stampede: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Donna: Sandberg bluegrass, bottlebrush squirreltail, low sagebrush
Inclusion 1: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass
Inclusion 2: Alpine timothy, willow

Ecological Site

Stampede: 025XY014NV
Donna: 025XY018NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY005NV

072--Stampede-Simon-Arva association

Composition

Major Components
Stampede gravelly loam, 2 to 8 percent slopes--50 percent
Simon silt loam, 4 to 8 percent slopes--20 percent
Arva gravelly loam, 8 to 30 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Aridic Argixerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 2: Xerollic Haplargids, loamy-skeletal, mixed, frigid gravelly silt loam--5 percent
Inclusion 3: Xerxes gravelly loam, 4 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Stampede--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Simon--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Arva--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: summit

Major Component Description

Stampede Series
Elevation: 5,800 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Simon Series
Elevation: 5,800 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Arva Series
Elevation: 5,800 to 6,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Stampede: Sandberg bluegrass, Thurber needlegrass, basin big sagebrush
Simon: Sandberg bluegrass, Thurber needlegrass, basin big sagebrush
Arva: Idaho fescue, basin big sagebrush, bluebunch wheatgrass
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass

Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Stampede: 025XY014NV
Simon: 025XY014NV
Arva: 025XY027NV
Inclusion 1: 025XY021NV
Inclusion 2: 025XY015NV
Inclusion 3: 025XY021NV

080--Wieland-Chiara-Puett association

Composition

Major Components

Wieland loam, 4 to 15 percent slopes--35 percent
Chiara silt loam, 2 to 8 percent slopes--30 percent
Puett gravelly sandy loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Hunnton gravelly silt loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Nevador gravelly loam, 8 to 30 percent slopes--5 percent
Inclusion 3: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly silt loam--4 percent
Inclusion 4: Kelk silt loam, 0 to 2 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Wieland--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Chiara--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Puett--Landform: Pediments; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Inset fans

Major Component Description

Wieland Series

Elevation: 5,800 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series

Elevation: 5,800 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Puett Series

Elevation: 5,800 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Wieland: Wyoming big sagebrush, bottlebrush squirreltail
Chiara: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Puett: Sandberg bluegrass, Wyoming big sagebrush, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Wieland: 025XY019NV
Chiara: 025XY019NV
Puett: 025XY025NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

Inclusion 4: 025XY019NV

081--Wieland-Gance-Nevador association

Composition

Major Components

Wieland gravelly loam, gravelly substratum, 0 to 2 percent slopes--30 percent

Gance very gravelly loam, 2 to 8 percent slopes--30 percent

Nevador loam, 0 to 2 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Hunnton gravelly loam, 2 to 8 percent slopes--10 percent

Inclusion 2: Durixerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts

Wieland--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Gance--Landform: Fan remnants; geomorphic position: backslope

Nevador--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane

Inclusion 1--Landform: Fan remnants; geomorphic position: summit

Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: lower

Major Component Description

Wieland Series

Elevation: 5,000 to 6,000 feet

Precipitation: About 9 inches

Air temperature: About 48 degrees

Frost-free season: About 110 days

Surface rock fragments: 20 percent gravel

Surface layer texture: Gravelly loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gance Series

Elevation: 5,000 to 6,000 feet

Precipitation: About 9 inches

Air temperature: About 48 degrees

Frost-free season: About 110 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Nevador Series

Elevation: 5,000 to 6,000 feet

Precipitation: About 9 inches

Air temperature: About 48 degrees

Frost-free season: About 115 days

Surface layer texture: Loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Wieland: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Gance: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Nevador: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Wieland: 025XY019NV

Gance: 025XY019NV

Nevador: 025XY019NV

Inclusion 1: 025XY019NV

Inclusion 2: 025XY019NV

082--Wieland-Hunnton-Hunewill association

Composition

Major Components

Wieland gravelly loam, gravelly substratum, 4 to 8 percent slopes--45 percent

Hunnton gravelly loam, 2 to 4 percent slopes--25 percent

Hunewill gravelly loam, 2 to 4 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Kelk silt loam, 0 to 2 percent slopes--5 percent

Inclusion 2: Xerollic Camborthids, fine-loamy, mixed, mesic silt loam--4 percent

Inclusion 3: Stampede gravelly loam, 4 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts

Wieland--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper

Hunnton--Landform: Fan remnants; geomorphic

position: summit
Hunewill--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope
Inclusion 3--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Wieland Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hunnton Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hunewill Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 8 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Wieland: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Hunnton: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Hunewill: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Nevada bluegrass

Ecological Site

Wieland: 025XY019NV
Hunnton: 025XY019NV
Hunewill: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY014NV

083--Wieland-Nevador-Donna association

Composition

Major Components
Wieland gravelly loam, gravelly substratum, 2 to 8 percent slopes--40 percent
Nevador loam, 4 to 15 percent slopes--30 percent
Donna gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Duric Argixerolls, fine-loamy, mixed, mesic gravelly loam--5 percent
Inclusion 2: Gance very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Xerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Wieland--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: plane
Nevador--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: convex
Donna--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; aspect: south

Major Component Description

Wieland Series
Elevation: 5,800 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel

Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Nevador Series
Elevation: 5,800 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Donna Series
Elevation: 6,000 to 6,400 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Wieland: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Nevador: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Donna: Low sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Wieland: 025XY019NV
Nevador: 025XY019NV
Donna: 025XY018NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY015NV

090--Hunnton-Chiara-Bilbo association

Composition

Major Components
Hunnton gravelly loam, 4 to 15 percent slopes--40 percent
Chiara silt loam, 2 to 8 percent slopes--25 percent
Bilbo very gravelly sandy clay loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions
Inclusion 1: Wieland gravelly loam, 4 to 15 percent slopes--10 percent
Inclusion 2: Kelk silt loam, 0 to 2 percent slopes--1 percent
Inclusion 3: Puett gravelly sandy loam, 15 to 30 percent slopes--1 percent
Inclusion 4: Xerollic Haplargids, fine-loamy, mixed, mesic gravelly silt loam--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Hunnton--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Chiara--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Bilbo--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: south

Major Component Description

Hunnton Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Bilbo Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent cobbles
Surface layer texture: Very gravelly sandy clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Hunnton: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Chiara: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Bilbo: Sandberg bluegrass, Wyoming big sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Indian ricegrass, black sagebrush
Inclusion 4: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Hunnton: 025XY019NV
Chiara: 025XY019NV
Bilbo: 025XY015NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY025NV
Inclusion 4: 025XY015NV

093--Hunnton-Wieland association

Composition

Major Components
Hunnton silt loam, 2 to 4 percent slopes--45 percent
Wieland loam, 2 to 8 percent slopes--40 percent
Contrasting Inclusions
Inclusion 1: Enko silt loam, 2 to 8 percent slopes--7 percent
Inclusion 2: Kelk silt loam, 0 to 2 percent slopes, occasionally flooded--2 percent
Inclusion 3: Gance very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 4: Welch silt loam, 0 to 2 percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Hunnton--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Wieland--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Drainageways

Major Component Description

Hunnton Series
Elevation: 5,600 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Wieland Series
Elevation: 5,600 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Hunnton: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Wieland: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Basin big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Nevada bluegrass

Ecological Site

Hunnton: 025XY019NV
Wieland: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY006NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY005NV

094--Hunnton-Chiara-Wieland association

Composition

Major Components

Hunnton silt loam, 2 to 8 percent slopes--40 percent
Chiara silt loam, 2 to 8 percent slopes--30 percent
Wieland loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Enko sandy loam, 2 to 8 percent slopes--9 percent
Inclusion 2: Stampede silt loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Puett gravelly sandy loam, 15 to 30 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Hunnton--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Chiara--Landform: Fan remnants; geomorphic position: summit
Wieland--Landform: Fan remnants; geomorphic position: backslope
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex

Major Component Description

Hunnton Series

Elevation: 5,200 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series

Elevation: 5,200 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Wieland Series

Elevation: 5,200 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Hunnton: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Chiara: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Wieland: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 3: Indian ricegrass, black sagebrush

Ecological Site

Hunnton: 025XY019NV
Chiara: 025XY019NV
Wieland: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY025NV

120--Peeko-Dewar-Puett association

Composition

Major Components

Peeko silt loam, 4 to 15 percent slopes--40 percent
Dewar gravelly silt loam, 4 to 15 percent slopes--30 percent
Puett gravelly sandy loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Nevador loam, 8 to 30 percent slopes--10 percent
Inclusion 2: Xerollic Durargids, loamy, mixed, mesic, shallow gravelly loam--3 percent
Inclusion 3: Xerollic Camborthids, coarse-loamy, mixed, mesic silt loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Dewar--Landform: Fan remnants; geomorphic

position: summit; position on slope: lower; shape of slope: concave
Puett--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Inset fans

Major Component Description

Peeko Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dewar Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 12 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Puett Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Peeko: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Dewar: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Puett: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, wildrye
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Peeko: 024XY030NV
Dewar: 025XY019NV
Puett: 025XY025NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV

121--Peeko-Dewar-Peeko, moderately steep association

Composition

Major Components
Peeko silt loam, 2 to 8 percent slopes--40 percent
Dewar gravelly silt loam, 2 to 8 percent slopes--25 percent
Peeko silt loam, 15 to 30 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Enko sandy loam, 2 to 15 percent slopes--9 percent
Inclusion 2: Puett gravelly sandy loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Xerollic Durorthids, loamy-skeletal, mixed, mesic gravelly silt loam--2 percent
Inclusion 4: Chiara silt loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Dewar--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Peeko--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Pediments; geomorphic position: backslope
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane
Inclusion 4--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Major Component Description

Peeko Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 9 inches

Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dewar Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Peeko Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Dewar: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Peeko: 024XY030NV
Dewar: 025XY019NV
Peeko: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY025NV
Inclusion 3: 025XY015NV
Inclusion 4: 025XY019NV

123--Peeko-Oupico-Dewar association

Composition

Major Components
Peeko silt loam, 2 to 8 percent slopes--50 percent
Oupico loam, 2 to 8 percent slopes--20 percent
Dewar gravelly silt loam, 2 to 4 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Enko loam, gravelly substratum, 2 to 4 percent slopes--5 percent
Inclusion 2: Nevador loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Izar very gravelly loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Oupico--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 3--Landform: Pediments; geomorphic position: backslope; shape of slope: convex

Major Component Description

Peeko Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Oupico Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dewar Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Oupico: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush

Ecological Site

Peeko: 024XY030NV
Oupico: 025XY019NV
Dewar: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY030NV

124--Peeko-Peeko, moderately steep-Gance association

Composition

Major Components
Peeko silt loam, 4 to 15 percent slopes--45 percent
Peeko silt loam, 15 to 30 percent slopes--25 percent
Gance very gravelly loam, 2 to 8 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Chiara silt loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Izar very gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Aridic Argixerolls, fine-loamy, mixed, mesic very gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: summit
Peeko--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Gance--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Pediments
Inclusion 3--Landform: Inset fans; position on slope: upper

Major Component Description

Peeko Series
Elevation: 6,100 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Peeko Series
Elevation: 6,100 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gance Series
Elevation: 6,100 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Peeko: Indian ricegrass, Sandberg bluegrass, black sagebrush
Peeko: Indian ricegrass, black sagebrush, bottlebrush squirreltail, cheatgrass

Gance: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Thurber needlegrass, big sagebrush, bluebunch wheatgrass

Ecological Site

Peeko: 024XY030NV
Peeko: 024XY030NV
Gance: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY014NV

125--Peeko-Chiara-Puett association

Composition

Major Components

Peeko silt loam, 15 to 30 percent slopes--50 percent
Chiara silt loam, 4 to 15 percent slopes--20 percent
Puett gravelly sandy loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Xerollic Durorthids, loamy-skeletal, mixed, mesic, shallow gravelly silt loam--7 percent
Inclusion 2: Peeko gravelly sandy loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--2 percent
Inclusion 4: Xerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Chiara--Landform: Fan remnants; geomorphic position: summit
Puett--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: plane
Inclusion 4--Landform: Inset fans

Major Component Description

Peeko Series

Elevation: 5,700 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series

Elevation: 5,700 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Puett Series

Elevation: 5,700 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Peeko: Indian ricegrass, Sandberg bluegrass, black sagebrush
Chiara: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Puett: Indian ricegrass, Sandberg bluegrass, black sagebrush, cheatgrass
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Peeko: 024XY030NV
Chiara: 025XY019NV
Puett: 025XY025NV

Inclusion 1: 024XY030NV
Inclusion 2: 024XY030NV
Inclusion 3: 024XY030NV
Inclusion 4: 025XY019NV

126--Peeko-Zapa association

Composition

Major Components

Peeko silt loam, 2 to 8 percent slopes--45 percent
Zapa very gravelly silt loam, 8 to 15 percent slopes--40 percent

Contrasting Inclusions

Inclusion 1: Dewar gravelly silt loam, 2 to 8 percent slopes--7 percent
Inclusion 2: Izar very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Yuko gravelly sandy loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Lithic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: summit
Zapa--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Pediments; geomorphic position: backslope
Inclusion 3--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Pediments; geomorphic position: backslope; position on slope: upper

Major Component Description

Peeko Series

Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Zapa Series

Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Peeko: Indian ricegrass, Sandberg bluegrass, black sagebrush, bottlebrush squirreltail
Zapa: Indian ricegrass, Sandberg bluegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, Sandberg bluegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Bluebunch wheatgrass

Ecological Site

Peeko: 024XY030NV
Zapa: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY015NV
Inclusion 4: 025XY042NV

127--Peeko-Chiara association

Composition

Major Components

Peeko silt loam, 2 to 8 percent slopes--50 percent
Chiara silt loam, 2 to 8 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Zapa very gravelly silt loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Wiffo very gravelly loam, 2 to 4 percent slopes--5 percent
Inclusion 3: Xerollic Durorthids, fine-loamy, mixed, mesic gravelly silt loam--4 percent
Inclusion 4: Hundraw gravelly fine sandy loam, 8 to 30 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Peeko--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Chiara--Landform: Fan remnants; geomorphic

position: summit; shape of slope: concave
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 4--Landform: Pediments; geomorphic position: backslope; position on slope: upper

Major Component Description

Peeko Series
Elevation: 5,700 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series
Elevation: 5,700 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Peeko: Indian ricegrass, black sagebrush, bottlebrush squirreltail, cheatgrass
Chiara: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Utah juniper, black sagebrush

Ecological Site

Peeko: 024XY030NV
Chiara: 025XY019NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY031NV
Inclusion 4: 025XY060NV

129--Dewar-Chuska association

Composition

Major Components
Dewar gravelly silt loam, 2 to 8 percent slopes--45 percent
Chuska gravelly loam, 2 to 8 percent slopes--40 percent
Contrasting Inclusions
Inclusion 1: Nevador loam, 4 to 15 percent slopes--10 percent
Inclusion 2: Dewar gravelly silt loam, 4 to 15 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: summit
Chuska--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: plane

Major Component Description

Dewar Series
Elevation: 5,000 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chuska Series
Elevation: 5,000 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Dominant Present Vegetation

Dewar: Wyoming big sagebrush

Chuska: Sandberg bluegrass, Wyoming big sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Dewar: 025XY019NV
Chuska: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV

130--Dewar-Wieland-Bilbo association

Composition

Major Components

Dewar gravelly silt loam, 2 to 4 percent slopes--40 percent
Wieland loam, 4 to 15 percent slopes--35 percent
Bilbo very gravelly sandy clay loam, 30 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hunnton gravelly loam, 4 to 15 percent slopes--9 percent
Inclusion 2: Cumulic Haploxerolls, loamy-skeletal, mixed, frigid silt loam--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: summit
Wieland--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane
Bilbo--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Inset fans

Major Component Description

Dewar Series

Elevation: 5,800 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Wieland Series

Elevation: 5,800 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Bilbo Series

Elevation: 5,800 to 6,100 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Wieland: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Bilbo: Sandberg bluegrass, Wyoming big sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Basin wildrye

Ecological Site

Dewar: 025XY019NV
Wieland: 025XY019NV
Bilbo: 025XY015NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY003NV

131--Dewar-Hunnton-Gance association

Composition

Major Components

Dewar gravelly silt loam, 2 to 8 percent slopes--40 percent
Hunnton gravelly loam, 2 to 8 percent slopes--30 percent
Gance very gravelly loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Wieland gravelly loam, 4 to 15 percent

slopes--10 percent
Inclusion 2: Peeko silt loam, 2 to 8 percent slopes--3 percent
Inclusion 3: Cumulic Haplaquolls, fine-loamy, mixed, frigid silt loam, drained, 0 to 2 percent slopes--1 percent
Inclusion 4: Bilbo very gravelly sandy clay loam, 30 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Hunnton--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Gance--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: concave
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; aspect: south

Major Component Description

Dewar Series
Elevation: 6,100 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hunnton Series
Elevation: 6,100 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gance Series
Elevation: 6,100 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dewar: Wyoming big sagebrush
Hunnton: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Gance: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 3: Basin wildrye
Inclusion 4: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Dewar: 025XY019NV
Hunnton: 025XY019NV
Gance: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY003NV
Inclusion 4: 025XY015NV

132--Dewar-Peeko-Bilbo association

Composition

Major Components
Dewar gravelly silt loam, 4 to 15 percent slopes--40 percent
Peeko silt loam, 4 to 15 percent slopes--30 percent
Bilbo very gravelly sandy clay loam, 30 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Hunnton gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Chiara silt loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Nevador loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Enko sandy loam, 2 to 4 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts

Dewar--Landform: Fan remnants; geomorphic position: backslope
Peeko--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Bilbo--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Inset fans

Major Component Description

Dewar Series
Elevation: 6,000 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Peeko Series
Elevation: 6,000 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Bilbo Series
Elevation: 6,000 to 6,100 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Peeko: Indian ricegrass, black sagebrush, bottlebrush squirreltail, cheatgrass
Bilbo: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Dewar: 025XY019NV
Peeko: 024XY030NV
Bilbo: 025XY015NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY019NV

133--Dewar-Chiara-Hunnton association

Composition

Major Components
Dewar gravelly silt loam, 2 to 8 percent slopes--40 percent
Chiara silt loam, 2 to 8 percent slopes--30 percent
Hunnton gravelly loam, 2 to 8 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Wieland gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Enko sandy loam, 2 to 4 percent slopes--5 percent
Inclusion 3: Gance very gravelly loam, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Chiara--Landform: Fan remnants; geomorphic position: summit
Hunnton--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Inset fans

Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: convex

Major Component Description

Dewar Series
Elevation: 5,700 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series
Elevation: 5,700 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hunnton Series
Elevation: 5,700 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Chiara: Wyoming big sagebrush, cheatgrass
Hunnton: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Dewar: 025XY019NV
Chiara: 025XY019NV
Hunnton: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

135--Dewar-Yuko association

Composition

Major Components
Dewar gravelly silt loam, 4 to 15 percent slopes--50 percent
Yuko gravelly sandy loam, 15 to 50 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--10 percent
Inclusion 2: Kelk silt loam, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: summit
Yuko--Landform: Pediments; geomorphic position: backslope
Inclusion 1--Landform: Pediments; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Inset fans

Major Component Description

Dewar Series
Elevation: 5,400 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Yuko Series
Elevation: 5,400 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 25 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Dewar: Wyoming big sagebrush, bottlebrush squirreltail
Yuko: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass, cheatgrass
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Dewar: 025XY019NV
Yuko: 025XY015NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY019NV

136--Dewar-Nevador-Hundraw association

Composition

Major Components

Dewar gravelly silt loam, 2 to 8 percent slopes--35 percent
Nevador loam, 2 to 8 percent slopes--35 percent
Hundraw gravelly loam, 15 to 30 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Kelk silt loam, 0 to 4 percent slopes--6 percent
Inclusion 2: Yuko gravelly sandy loam, 15 to 50 percent slopes--4 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: summit
Nevador--Landform: Fan remnants; geomorphic position: backslope
Hundraw--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: south

Major Component Description

Dewar Series

Elevation: 5,300 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Nevador Series

Elevation: 5,300 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hundraw Series

Elevation: 5,300 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Nevador: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Hundraw: Indian ricegrass, Sandberg bluegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Dewar: 025XY019NV
Nevador: 025XY019NV
Hundraw: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY015NV

137--Dewar-Gochea association

Composition

Major Components

Dewar gravelly silt loam, 2 to 4 percent slopes--55 percent
Gochea loam, 2 to 8 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Durixerollic Camborthids, loamy-skeletal,

mixed, mesic gravelly loam--5 percent
Inclusion 2: Gance very gravelly clay loam, 15 to 30 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position:
summit; shape of slope: convex
Gochea--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex

Major Component Description

Dewar Series
Elevation: 5,800 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gochea Series
Elevation: 5,800 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Gochea: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Dewar: 025XY019NV
Gochea: 025XY014NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV

138--Dewar-Jackpot-Dewar, moderately sloping association

Composition

Major Components
Dewar gravelly silt loam, 2 to 8 percent slopes--55 percent
Jackpot sandy loam, 4 to 15 percent slopes--15 percent
Dewar gravelly silt loam, 8 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--10 percent
Inclusion 2: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic sandy loam--3 percent
Inclusion 3: Xerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Dewar--Landform: Fan remnants; geomorphic position: summit
Jackpot--Landform: Hills; geomorphic position: summit
Dewar--Landform: Fan remnants; geomorphic position: backslope
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan skirts
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; aspect: south

Major Component Description

Dewar Series
Elevation: 5,200 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Jackpot Series
Elevation: 5,200 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam

Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dewar Series
Elevation: 5,200 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Jackpot: Indian ricegrass, Wyoming big sagebrush, needleandthread
Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Black greasewood, inland saltgrass
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Dewar: 025XY019NV
Jackpot: 024XY017NV
Dewar: 025XY019NV
Inclusion 1: 025XY014NV
Inclusion 2: 024XY022NV
Inclusion 3: 025XY015NV

139--Dewar-Yuko-Izar association

Composition

Major Components
Dewar gravelly silt loam, 4 to 15 percent slopes--35 percent
Yuko gravelly sandy loam, 15 to 50 percent slopes--25 percent
Izar very gravelly loam, 15 to 50 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Peeko silt loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Ackett very gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Zapa very gravelly silt loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Oupico sandy loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Yuko--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: south
Izar--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 4--Landform: Fan remnants

Major Component Description

Dewar Series
Elevation: 5,400 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Yuko Series
Elevation: 5,400 to 5,800 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 25 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Izar Series
Elevation: 5,400 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Dominant Present Vegetation

Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Yuko: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass, cheatgrass
Izar: Indian ricegrass, Sandberg bluegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 4: Wyoming big sagebrush, needleandthread

Ecological Site

Dewar: 025XY019NV
Yuko: 025XY015NV
Izar: 024XY030NV
Inclusion 1: 024XY030NV
Inclusion 2: 024XY030NV
Inclusion 3: 024XY030NV
Inclusion 4: 024XY017NV

140--Chiara-Wieland-Enko association

Composition

Major Components

Chiara silt loam, 2 to 4 percent slopes--40 percent
Wieland loam, 2 to 8 percent slopes--30 percent
Enko fine sandy loam, 2 to 8 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Hunnton silt loam, 2 to 4 percent slopes--5 percent
Inclusion 2: Nevador very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 3: Kelk silt loam, 0 to 2 percent slopes, rarely flooded--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Chiara--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Wieland--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Enko--Landform: Inset fans
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Inset fans

Major Component Description

Chiara Series

Elevation: 5,500 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Wieland Series

Elevation: 5,500 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series

Elevation: 5,500 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Chiara: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Wieland: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Enko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Basin big sagebrush, basin wildrye, bottlebrush squirreltail

Ecological Site

Chiara: 025XY019NV
Wieland: 025XY019NV
Enko: 025XY019NV

Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY006NV

141--Chiara-Kelk-Kelk, rarely flooded association

Composition

Major Components

Chiara silt loam, 2 to 4 percent slopes--50 percent
Kelk silt loam, 2 to 8 percent slopes--20 percent
Kelk silt loam, 0 to 2 percent slopes, rarely flooded--15 percent

Contrasting Inclusions

Inclusion 1: Puett gravelly sandy loam, 8 to 30 percent slopes--10 percent
Inclusion 2: Xerollic Camborthids, sandy-skeletal, mixed, mesic sandy loam--3 percent
Inclusion 3: Dacker silt loam, 2 to 4 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Chiara--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Kelk--Landform: Fan skirts
Kelk--Landform: Inset fans
Inclusion 1--Landform: Pediments; geomorphic position: backslope
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Major Component Description

Chiara Series

Elevation: 5,400 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series

Elevation: 5,400 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series

Elevation: 5,400 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Chiara: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Kelk: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Kelk: Basin big sagebrush, basin wildrye, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Chiara: 025XY019NV
Kelk: 025XY019NV
Kelk: 024XY006NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

144--Chiara-Dewar-Enko association

Composition

Major Components

Chiara silt loam, 2 to 4 percent slopes--35 percent
Dewar gravelly silt loam, 2 to 4 percent slopes--25 percent
Enko fine sandy loam, 2 to 4 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Nevador loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Enko fine sandy loam, 0 to 2 percent slopes, rarely flooded--5 percent
Inclusion 3: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts

Chiara--Landform: Fan remnants; geomorphic position: summit
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Enko--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope

Major Component Description

Chiara Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dewar Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Chiara: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Dewar: Wyoming big sagebrush
Enko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Chiara: 025XY019NV
Dewar: 025XY019NV
Enko: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

150--Shalper-Tusel-Shalcleav association

Composition

Major Components
Shalper very gravelly loam, 15 to 30 percent slopes--55 percent
Tusel very gravelly fine sandy loam, 30 to 50 percent slopes--15 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Durargidic Argixerolls, loamy, mixed, frigid, shallow gravelly loam--5 percent
Inclusion 2: Tweener very gravelly loam, 15 to 30 percent slopes--4 percent
Inclusion 3: Quarz gravelly loam, 30 to 50 percent slopes--4 percent
Inclusion 4: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Hills
Shalper--Landform: Hills; geomorphic position: summit; shape of slope: plane
Tusel--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north
Shalcleav--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 4--Landform: Hills

Major Component Description

Shalper Series
Elevation: 6,300 to 6,700 feet
Precipitation: About 10 inches

Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Tusel Series
Elevation: 6,300 to 6,700 feet
Precipitation: About 17 inches
Air temperature: About 43 degrees
Frost-free season: About 65 days
Surface rock fragments: 35 percent cobbles; 15 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks, loess and volcanic ash

Shalcleav Series
Elevation: 6,300 to 6,700 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 70 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalper: Bluebunch wheatgrass, cheatgrass
Tusel: Mountain brome, slender wheatgrass, snowberry
Shalcleav: Indian ricegrass, Sandberg bluegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 4: None

Ecological Site

Shalper: 025XY021NV
Tusel: 025XY004NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY007NV
Inclusion 3: 025XY009NV
Inclusion 4: none

151--Shalper-Soughe association

Composition

Major Components
Shalper very gravelly loam, 4 to 30 percent slopes--70 percent
Soughe very gravelly coarse sandy loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Rodie very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Typic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 3: Cameek gravelly loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Shalper--Landform: Hills; geomorphic position: summit; shape of slope: plane
Soughe--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Shalper Series
Elevation: 5,600 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Soughe Series
Elevation: 5,600 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel

Surface layer texture: Very gravelly coarse sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalper: Bottlebrush squirreltail, cheatgrass
Soughe: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Inclusion 1: Black sagebrush, bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 4: Thurber needlegrass, black sagebrush

Ecological Site

Shalper: 025XY021NV
Soughe: 025XY015NV
Inclusion 1: 025XY055NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY014NV
Inclusion 4: 025XY057NV

154--Shalper-Contact-Rock outcrop association

Composition

Major Components

Shalper very gravelly sandy loam, 15 to 30 percent slopes--35 percent
Contact gravelly loamy coarse sand, 15 to 30 percent slopes--30 percent
Rock outcrop--15 percent

Contrasting Inclusions

Inclusion 1: Lithic Xeric Torriorthents, sandy-skeletal, mixed, mesic very gravelly loam--10 percent
Inclusion 2: Xica gravelly loamy coarse sand, 4 to 15 percent slopes--8 percent
Inclusion 3: Valmy very fine sandy loam, 4 to 15 percent slopes--1 percent
Inclusion 4: Aridic Argixerolls, coarse-loamy, mixed, mesic gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Contact--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Rock outcrop--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Alluvial fans
Inclusion 4--Landform: Hills; geomorphic position: backslope; aspect: south

Major Component Description

Shalper Series

Elevation: 5,400 to 6,000 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Contact Series

Elevation: 5,400 to 6,000 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loamy coarse sand
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium derived from granitic rocks

Rock outcrop Miscellaneous Area

Elevation: 5,400 to 6,000 feet

Dominant Present Vegetation

Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Contact: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass
Rock outcrop: None
Inclusion 1: Antelope bitterbrush
Inclusion 2: Sandberg bluegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Basin wildrye, big sagebrush, black greasewood
Inclusion 4: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Shalper: 025XY021NV
Contact: 025XY014NV
Rock outcrop: None

Inclusion 1: 025XY058NV
Inclusion 2: 025XY057NV
Inclusion 3: 024XY022NV
Inclusion 4: 025XY015NV

155--Shalper-Rock outcrop-Pequop association

Composition

Major Components

Shalper very gravelly sandy loam, 8 to 30 percent slopes--40 percent
Rock outcrop--25 percent
Pequop gravelly loam, 8 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Lithic Xeric Torriorthents, sandy-skeletal, mixed, mesic very gravelly loam--10 percent
Inclusion 2: Typic Argixerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 3: Typic Argixerolls, fine-loamy, mixed, frigid gravelly loam--5 percent

Map Unit Setting

Landscape position: Hills
Shalper--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Rock outcrop--Landform: Hills; geomorphic position: summit
Pequop--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Hills
Inclusion 2--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Shalper Series

Elevation: 5,500 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Rock outcrop Miscellaneous Area

Elevation: 5,500 to 7,300 feet

Pequop Series

Elevation: 5,500 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Dominant Present Vegetation

Shalper: Wyoming big sagebrush, bluebunch wheatgrass, cheatgrass
Rock outcrop: None
Pequop: Idaho fescue, antelope bitterbrush
Inclusion 1: Bluebunch wheatgrass
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Basin big sagebrush, bluebunch wheatgrass

Ecological Site

Shalper: 025XY021NV
Pequop: 025XY012NV
Rock outcrop: None
Inclusion 1: 025XY058NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY027NV

156--Shalper-Dewar-Yuko association

Composition

Major Components

Shalper very gravelly loam, 4 to 15 percent slopes--55 percent
Dewar gravelly silt loam, 2 to 8 percent slopes--15 percent
Yuko gravelly sandy loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Typic Argixerolls, fine-loamy, mixed, frigid gravelly loam--8 percent
Inclusion 2: Xeric Torriorthents, loamy, mixed (calcareous), frigid, shallow gravelly silt loam--4 percent
Inclusion 3: Durargidic Argixerolls, coarse-loamy, mixed, mesic gravelly loam--3 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Shalper--Landform: Hills; geomorphic position: backslope; position on slope: lower
Dewar--Landform: Fan remnants; geomorphic position: summit
Yuko--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper; aspect: south
Inclusion 3--Landform: Drainageways

Major Component Description

Shalper Series
Elevation: 5,700 to 6,600 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dewar Series
Elevation: 5,700 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Yuko Series
Elevation: 5,700 to 6,600 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 25 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Dewar: Sandberg bluegrass, Wyoming big sagebrush, basin big sagebrush
Yuko: Wyoming big sagebrush, basin big sagebrush, bluebunch wheatgrass
Inclusion 1: Basin big sagebrush, bluebunch wheatgrass
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Thurber needlegrass, big sagebrush, bluebunch wheatgrass

Ecological Site

Shalper: 025XY021NV
Dewar: 025XY019NV
Yuko: 025XY015NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY014NV

160--Dacker-Nevador-Kelk association

Composition

Major Components
Dacker silt loam, 2 to 4 percent slopes--45 percent
Nevador loam, 4 to 15 percent slopes--25 percent
Kelk silt loam, 0 to 4 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Hunnton loam, 2 to 4 percent slopes--4 percent
Inclusion 2: Oupico loam, 2 to 4 percent slopes--3 percent
Inclusion 3: Xerollic Camborthids, sandy-skeletal, mixed, mesic sandy loam--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dacker--Landform: Fan remnants; geomorphic position: summit
Nevador--Landform: Fan remnants; geomorphic position: backslope
Kelk--Landform: Inset fans
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Major Component Description

Dacker Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 49 degrees

Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Nevador Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dacker: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Nevador: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Kelk: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Dacker: 025XY019NV
Nevador: 025XY019NV
Kelk: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

161--Dacker-Yuko-Wieland association

Composition

Major Components
Dacker silt loam, 2 to 4 percent slopes--40 percent
Yuko very gravelly loam, 15 to 30 percent slopes--25 percent
Wieland loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Puett sandy loam, 15 to 50 percent slopes--8 percent
Inclusion 2: Kelk silt loam, 0 to 2 percent slopes--4 percent
Inclusion 3: Nevador gravelly loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dacker--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Yuko--Landform: Pediments; geomorphic position: backslope; aspect: south
Wieland--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Major Component Description

Dacker Series
Elevation: 5,400 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Yuko Series
Elevation: 5,400 to 5,600 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from tuffaceous rocks

Wieland Series
Elevation: 5,400 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel

Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dacker: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Yuko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Wieland: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Dacker: 025XY019NV
Yuko: 025XY019NV
Wieland: 025XY019NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

163--Dacker-Chiara-Peeko association

Composition

Major Components

Dacker silt loam, 2 to 8 percent slopes--40 percent
Chiara silt loam, 2 to 8 percent slopes--30 percent
Peeko silt loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Izar very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Zapa very gravelly loam, 2 to 8 percent slopes--2 percent
Inclusion 3: Kelk silt loam, 2 to 4 percent slopes--2 percent
Inclusion 4: Yuko loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Dacker--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Chiara--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Peeko--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Inset fans
Inclusion 4--Landform: Pediments; geomorphic position: backslope; shape of slope: convex

Major Component Description

Dacker Series

Elevation: 5,900 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series

Elevation: 5,900 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Peeko Series

Elevation: 5,900 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Dacker: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Chiara: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Peeko: Indian ricegrass, black sagebrush, bluegrass, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Dacker: 025XY019NV
Chiara: 025XY019NV
Peeko: 024XY030NV
Inclusion 1: 024XY030NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY019NV

170--Enko-Kelk-Enko, nearly level association

Composition

Major Components

Enko fine sandy loam, 2 to 8 percent slopes--35 percent
Kelk silt loam, 0 to 2 percent slopes--35 percent
Enko very fine sandy loam, 0 to 2 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Puett fine sandy loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Chiara silt loam, 0 to 2 percent slopes--3 percent
Inclusion 3: Nevador gravelly loam, 4 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Enko--Landform: Fan skirts
Kelk--Landform: Inset fans
Enko--Landform: Inset fans
Inclusion 1--Landform: Pediments
Inclusion 2--Landform: Partial ballenas; geomorphic position: summit
Inclusion 3--Landform: Partial ballenas; geomorphic position: backslope

Major Component Description

Enko Series

Elevation: 5,500 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series

Elevation: 5,500 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series

Elevation: 5,500 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Very fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Enko: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Kelk: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Enko: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Enko: 025XY019NV
Kelk: 025XY019NV
Enko: 025XY019NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

171--Enko-Chiara-Kelk association

Composition

Major Components

Enko fine sandy loam, 4 to 15 percent slopes--40 percent
Chiara silt loam, 2 to 4 percent slopes--30 percent
Kelk silt loam, 0 to 2 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Puett sandy loam, 15 to 30 percent slopes--6 percent

Inclusion 2: Dacker silt loam, 2 to 4 percent slopes--4 percent
Inclusion 3: Enko very gravelly loam, 15 to 30 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Enko--Landform: Inset fans
Chiara--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Kelk--Landform: Inset fans
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope

Major Component Description

Enko Series
Elevation: 5,600 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chiara Series
Elevation: 5,600 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series
Elevation: 5,600 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Enko: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Chiara: Sandberg bluegrass, Wyoming big sagebrush
Kelk: Wyoming big sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Enko: 025XY019NV
Chiara: 025XY019NV
Kelk: 025XY019NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

174--Enko-Jericho association

Composition

Major Components
Enko fine sandy loam, 2 to 4 percent slopes--70 percent
Jericho gravelly sandy loam, 2 to 4 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Typic Torripsamments, mixed, mesic loamy fine sand--5 percent
Inclusion 2: Peeko silt loam, 2 to 8 percent slopes--3 percent
Inclusion 3: Hundraw gravelly sandy loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Enko--Landform: Fan skirts
Jericho--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan aprons
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Pediments

Major Component Description

Enko Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Jericho Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Enko: Indian ricegrass, Wyoming big sagebrush, needleandthread
Jericho: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 1: Wyoming big sagebrush, needleandthread
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Utah juniper, black sagebrush

Ecological Site

Enko: 028BY010NV
Jericho: 028BY010NV
Inclusion 1: 028BY010NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY060NV

175--Wiffo-Nevador association

Composition

Major Components
Wiffo very gravelly loam, 2 to 8 percent slopes--50 percent
Nevador loam, 2 to 8 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Zapa gravelly silt loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Luap very gravelly fine sandy loam, 2 to 4 percent slopes--4 percent
Inclusion 3: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--3 percent
Inclusion 4: Oupico loam, 2 to 4 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Wiffo--Landform: Fan skirts; position on slope: lower
Nevador--Landform: Fan skirts; position on slope: upper
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane

Major Component Description

Wiffo Series
Elevation: 5,600 to 5,750 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 1 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from sedimentary rocks

Nevador Series
Elevation: 5,600 to 5,750 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Wiffo: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Nevador: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Bud sagebrush, shadscale
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Nevador: 025XY019NV
Wiffo: 025XY019NV
Inclusion 1: 024XY030NV
Inclusion 2: 028BY017NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY019NV

180--Sonoma-Devilsgait-Sonoma, strongly saline-sodic association

Composition

Major Components

Sonoma silt loam, drained, 0 to 2 percent slopes, rarely flooded--55 percent
Devilsgait silt loam, drained, 0 to 2 percent slopes, occasionally flooded--20 percent
Sonoma silt loam, drained, 0 to 2 percent slopes, 0 to 2 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Aeric Fluvaquents, coarse-loamy, mixed (calcareous), mesic sandy loam--6 percent
Inclusion 2: Sonoma silt loam, 0 to 2 percent slopes, occasionally flooded--3 percent
Inclusion 3: Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Sonoma--Landform: Flood plains
Devilsgait--Landform: Flood plains
Sonoma--Landform: Flood plains
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains

Major Component Description

Sonoma Series

Elevation: 5,400 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Devilsgait Series

Elevation: 5,400 to 5,600 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Sonoma Series

Elevation: 5,400 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Sonoma: Basin big sagebrush, basin wildrye, rubber rabbitbrush
Devilsgait: Basin big sagebrush, basin wildrye, rubber rabbitbrush
Sonoma: Alkali sacaton, basin wildrye, black greasewood
Inclusion 1: Nevada bluegrass, basin wildrye
Inclusion 2: Basin big sagebrush, black greasewood, western wheatgrass
Inclusion 3: Creeping wildrye, willow

Ecological Site

Sonoma: 025XY003NV
Devilsgait: 025XY003NV
Sonoma: 024XY007NV
Inclusion 1: 025XY003NV
Inclusion 2: 024XY006NV
Inclusion 3: 025XY001NV

182--Sonoma-Devilsgait-Sonoma, occasionally flooded association

Composition

Major Components

Sonoma silty clay loam, clayey substratum, 0 to 2 percent slopes, frequently flooded--40 percent
Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--25 percent
Sonoma silt loam, 0 to 2 percent slopes, occasionally flooded--20 percent

Contrasting Inclusions

Inclusion 1: Sonoma silt loam, strongly saline, 0 to 2 percent slopes, rarely flooded--5 percent
Inclusion 2: Devilsgait silty clay, 0 to 2 percent slopes, frequently flooded--4 percent
Inclusion 3: Halleck silt loam, 0 to 2 percent slopes, frequently flooded--1 percent
Inclusion 4: Sonoma silt loam, drained, 0 to 2 percent slopes, rarely flooded--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Sonoma--Landform: Flood plains
Devilsgait--Landform: Flood plains
Sonoma--Landform: Flood plains
Inclusion 1--Landform: Alluvial flats
Inclusion 2--Landform: Flood plains

Inclusion 3--Landform: Flood plains; shape of slope: concave
Inclusion 4--Landform: Flood plains

Major Component Description

Sonoma Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Devilsgait Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Sonoma Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Sonoma: Alkali bluegrass, alkali sacaton, basin wildrye, inland saltgrass
Devilsgait: Basin wildrye, creeping wildrye
Sonoma: Basin big sagebrush, basin wildrye, black greasewood
Inclusion 1: Basin wildrye, black greasewood
Inclusion 2: Basin wildrye, creeping wildrye, willow
Inclusion 3: Nevada bluegrass, tufted hairgrass
Inclusion 4: Nevada bluegrass, basin big sagebrush, basin wildrye

Ecological Site

Sonoma: 024XY009NV
Devilsgait: 025XY001NV
Sonoma: 024XY006NV
Inclusion 1: 024XY007NV
Inclusion 2: 025XY001NV
Inclusion 3: 025XY005NV
Inclusion 4: 025XY003NV

183--Sonoma-Sonoma, occasionally flooded association

Composition

Major Components
Sonoma silt loam, 0 to 2 percent slopes, frequently flooded--60 percent
Sonoma silt loam, 0 to 2 percent slopes, occasionally flooded--25 percent
Contrasting Inclusions
Inclusion 1: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--7 percent
Inclusion 2: Sonoma silty clay loam, 0 to 2 percent slopes, frequently flooded--5 percent
Inclusion 3: Sonoma silt loam, drained, 0 to 2 percent slopes, rarely flooded--3 percent

Map Unit Setting

Landscape position: Intermontane basins
Sonoma--Landform: Flood plains
Sonoma--Landform: Flood plains
Inclusion 1--Landform: Fan skirts
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains

Major Component Description

Sonoma Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Sonoma Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Sonoma: Basin wildrye, creeping wildrye, willow
Sonoma: Basin big sagebrush, basin wildrye
Inclusion 1: Basin wildrye, big sagebrush
Inclusion 2: Baltic rush, alkali muhly, alkali sacaton

Inclusion 3: Nevada bluegrass, basin big sagebrush

Ecological Site

Sonoma: 025XY001NV
Sonoma: 024XY006NV
Inclusion 1: 024XY022NV
Inclusion 2: 024XY009NV
Inclusion 3: 025XY003NV

185--Sonoma-Ocala Variant association

Composition

Major Components

Sonoma silty clay loam, clayey substratum, 0 to 2 percent slopes, frequently flooded--50 percent
Ocala Variant silty clay loam, 0 to 2 percent slopes, frequently flooded--35 percent

Contrasting Inclusions

Inclusion 1: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--10 percent
Inclusion 2: Typic Torriorthents, fine-silty, mixed (calcareous), mesic silt loam--1 percent
Inclusion 3: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--4 percent

Map Unit Setting

Landscape position: Intermontane basins
Sonoma--Landform: Flood plains
Ocala Variant--Landform: Flood plains
Inclusion 1--Landform: Fan skirts
Inclusion 2--Landform: Alluvial flats
Inclusion 3--Landform: Fan skirts

Major Component Description

Sonoma Series

Elevation: 4,600 to 4,900 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Ocala Variant Series

Elevation: 4,600 to 4,900 feet
Precipitation: About 10 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Sonoma: Alkali bluegrass, alkali muhly, alkali sacaton
Ocala Variant: Inland saltgrass, mat muhly, rush
Inclusion 1: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 2: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 3: Wyoming big sagebrush, basin wildrye, black greasewood

Ecological Site

Sonoma: 024XY009NV
Ocala Variant: 028AY005NV
Inclusion 1: 028BY020NV
Inclusion 2: 028BY020NV
Inclusion 3: 028BY028NV

186--Sondoa-Ixian-Ixian, strongly saline-sodic association

Composition

Major Components

Sondoa silt loam, 0 to 2 percent slopes--50 percent
Ixian silt loam, 0 to 2 percent slopes, rarely flooded--25 percent
Ixian silty clay loam, strongly saline-sodic, 0 to 2 percent slopes, rarely flooded--15 percent

Contrasting Inclusions

Inclusion 1: Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--5 percent
Inclusion 2: Toano silt loam, 2 to 4 percent slopes--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Sondoa--Landform: Lake plains; position on slope: upper
Ixian--Landform: Lake plains
Ixian--Landform: Lake plains; position on slope: lower
Inclusion 1--Landform: Alluvial flats
Inclusion 2--Landform: Fan skirts

Major Component Description

Sondoa Series

Elevation: 4,800 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days

Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks and lacustrine sediments

Ixian Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Ixian Series
Elevation: 4,800 to 5,700 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silty clay loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Dominant Present Vegetation

Sondoa: Alkali sacaton, black greasewood, inland saltgrass
Ixian: Alkali sacaton, black greasewood, inland saltgrass
Ixian: Bottlebrush squirreltail
Inclusion 1: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 2: Sickle saltbush

Ecological Site

Sondoa: 028BY020NV
Ixian: 028BY020NV
Ixian: 028BY047NV
Inclusion 1: 028BY004NV
Inclusion 2: 028BY047NV

187--Sonoma-Deleplain-Ocala association

Composition

Major Components
Sonoma silt loam, 0 to 2 percent slopes, occasionally flooded--30 percent
Deleplain silt loam, 0 to 2 percent slopes, frequently flooded--30 percent
Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--25 percent
Contrasting Inclusions
Inclusion 1: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--4 percent
Inclusion 2: Welch silt loam, 0 to 2 percent slopes, occasionally flooded--4 percent
Inclusion 3: Crooked Creek silty clay loam, gravelly substratum, 0 to 2 percent slopes, frequently flooded--4 percent
Inclusion 4: Ocala silt loam, strongly saline, 0 to 2 percent slopes, occasionally flooded--3 percent

Map Unit Setting

Landscape position: Intermontane basins
Sonoma--Landform: Stream terraces
Deleplain--Landform: Flood plains
Ocala--Landform: Flood plains
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains
Inclusion 4--Landform: Alluvial flats

Major Component Description

Sonoma Series
Elevation: 5,000 to 5,400 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Deleplain Series
Elevation: 5,000 to 5,400 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Ocala Series
Elevation: 5,000 to 5,400 feet
Precipitation: About 7 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Sonoma: Basin big sagebrush, basin wildrye, western wheatgrass
Deleplain: Basin wildrye, creeping wildrye, willow
Ocala: Alkali sacaton, basin wildrye, black greasewood, inland saltgrass
Inclusion 1: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 2: Nevada bluegrass, alpine timothy, willow
Inclusion 3: Willow
Inclusion 4: Basin wildrye, black greasewood, inland saltgrass

Ecological Site

Sonoma: 024XY006NV
Deleplain: 025XY001NV
Ocala: 024XY007NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY006NV
Inclusion 3: 025XY005NV
Inclusion 4: 024XY008NV

190--Forvic-Igdell association

Composition

Major Components

Forvic gravelly silty clay loam, 4 to 15 percent slopes--45 percent
Igdell very gravelly clay loam, 4 to 15 percent slopes--40 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, fine, montmorillonitic, frigid very gravelly loam--6 percent
Inclusion 2: Pachic Haploxerolls, fine-loamy, mixed, frigid gravelly silt loam--6 percent
Inclusion 3: Welch loam, 0 to 2 percent slopes, frequently flooded--2 percent
Inclusion 4: Lithic Argixerolls, clayey, montmorillonitic, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Forvic--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Igdell--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Pediments; geomorphic position: backslope; shape of slope: convex

Major Component Description

Forvic Series

Elevation: 6,000 to 6,400 feet
Precipitation: About 15 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly silty clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from sandstone

Igdell Series

Elevation: 6,000 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Forvic: Idaho fescue, basin big sagebrush, bluebunch wheatgrass
Igdell: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Nevada bluegrass, willow
Inclusion 4: Idaho fescue, bluebunch wheatgrass, low sagebrush

Ecological Site

Forvic: 025XY027NV
Igdell: 025XY017NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY005NV
Inclusion 4: 025XY017NV

191--Forvic-Chayson-Igdell association

Composition

Major Components

Forvic gravelly silty clay loam, 2 to 8 percent slopes--50 percent

Chayson loam, 2 to 8 percent slopes--25 percent

Igdell very gravelly clay loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, fine, montmorillonitic, frigid very gravelly loam--7 percent

Inclusion 2: Crooked Creek silty clay loam, 0 to 2 percent slopes, frequently flooded--3 percent

Map Unit Setting

Landscape position: Fan piedmonts

Forvic--Landform: Fan remnants; geomorphic position: summit; position on slope: upper

Chayson--Landform: Fan remnants; geomorphic position: summit; position on slope: upper

Igdell--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; aspect: south

Inclusion 2--Landform: Drainageways

Major Component Description

Forvic Series

Elevation: 5,800 to 6,200 feet

Precipitation: About 15 inches

Air temperature: About 42 degrees

Frost-free season: About 85 days

Surface rock fragments: 25 percent gravel

Surface layer texture: Gravelly silty clay loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Chayson Series

Elevation: 5,800 to 6,200 feet

Precipitation: About 14 inches

Air temperature: About 43 degrees

Frost-free season: About 100 days

Surface layer texture: Loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Igdell Series

Elevation: 5,800 to 6,200 feet

Precipitation: About 12 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 55 percent gravel

Surface layer texture: Very gravelly clay loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Forvic: Basin big sagebrush, bluebunch wheatgrass

Chayson: Basin big sagebrush, bluebunch wheatgrass

Igdell: Idaho fescue, bluebunch wheatgrass, low sagebrush

Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Inclusion 2: Nevada bluegrass, willow

Ecological Site

Forvic: 025XY027NV

Chayson: 025XY027NV

Igdell: 025XY017NV

Inclusion 1: 025XY009NV

Inclusion 2: 025XY005NV

195--Chayson-Igdell association

Composition

Major Components

Chayson loam, 4 to 15 percent slopes--60 percent

Igdell very gravelly clay loam, 4 to 15 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--5 percent

Inclusion 2: Crooked Creek silt loam, 0 to 2 percent slopes, frequently flooded--2 percent

Inclusion 3: Arva silt loam, 15 to 50 percent slopes--2 percent

Inclusion 4: Typic Argixerolls, fine, montmorillonitic, frigid gravelly loam--1 percent

Map Unit Setting

Landscape position: Fan piedmonts

Chayson--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Igdell--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex

Inclusion 1--Landform: Drainageways

Inclusion 2--Landform: Drainageways

Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north

Inclusion 4--Landform: Fan remnants; geomorphic position: backslope

Major Component Description

Chayson Series
Elevation: 5,800 to 6,200 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 100 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Igdell Series
Elevation: 5,800 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Chayson: Idaho fescue, Sandberg bluegrass, basin big sagebrush, bluebunch wheatgrass
Igdell: Idaho fescue, Sandberg bluegrass, bluebunch wheatgrass, low sagebrush
Inclusion 1: Nevada bluegrass, basin wildrye
Inclusion 2: Nevada bluegrass, willow
Inclusion 3: Idaho fescue
Inclusion 4: Idaho fescue, bluebunch wheatgrass, low sagebrush

Ecological Site

Chayson: 025XY027NV
Igdell: 025XY017NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY005NV
Inclusion 3: 025XY027NV
Inclusion 4: 025XY017NV

211--Crooked Creek, drained-Crooked Creek-Welch association

Composition

Major Components
Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--30 percent
Crooked Creek silt loam, 0 to 2 percent slopes, frequently flooded--30 percent
Welch silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--25 percent

Contrasting Inclusions
Inclusion 1: Kelk silt loam, 2 to 4 percent slopes, rarely flooded--9 percent
Inclusion 2: Sonoma silt loam, drained, 0 to 2 percent slopes, rarely flooded--5 percent
Inclusion 3: Crooked Creek silty clay loam, 0 to 2 percent slopes, occasionally flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Crooked Creek--Landform: Flood plains
Crooked Creek--Landform: Flood plains
Welch--Landform: Flood plains
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains

Major Component Description

Crooked Creek Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks

Crooked Creek Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks

Welch Series
Elevation: 5,600 to 5,800 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Crooked Creek: Nevada bluegrass, basin big sagebrush, basin wildrye
Crooked Creek: Nevada bluegrass
Welch: Nevada bluegrass, basin big sagebrush, basin wildrye

Inclusion 1: Nevada bluegrass, alpine timothy, willow
Inclusion 2: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 3: Nevada bluegrass, alpine timothy, willow

Ecological Site

Crooked Creek: 025XY003NV
Crooked Creek: 025XY005NV
Welch: 025XY003NV
Inclusion 1: 025XY006NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY006NV

219--Shalcleav-Arcia association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 8 to 30 percent slopes--50 percent
Arcia silt loam, 4 to 15 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Wicup loam, 2 to 8 percent slopes--10 percent
Inclusion 2: Fenelon gravelly loam, 4 to 15 percent slopes--3 percent
Inclusion 3: Crooked Creek silty clay loam, drained, 2 to 4 percent slopes, rarely flooded--1 percent
Inclusion 4: Sumine very stony loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Shalcleav--Landform: Hills; geomorphic position: summit; shape of slope: convex
Arcia--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Pediments; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Pediments; geomorphic position: summit
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south

Major Component Description

Shalcleav Series

Elevation: 6,400 to 6,500 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Arcia Series

Elevation: 6,400 to 6,500 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Shalcleav: Sandberg bluegrass, Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Arcia: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Nevada bluegrass, basin wildrye
Inclusion 4: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Shalcleav: 025XY057NV
Arcia: 025XY012NV
Inclusion 1: 025XY014NV
Inclusion 2: 024XY031NV
Inclusion 3: 025XY003NV
Inclusion 4: 025XY009NV

220--Shalcleav-Cleavage-Arcia association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--60 percent
Cleavage very gravelly loam, 8 to 30 percent slopes--20 percent
Arcia silt loam, 8 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Sumine very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 2: Hapgood gravelly loam, 15 to 30 percent slopes--1 percent

Inclusion 3: Crooked Creek silty clay loam, 0 to 2 percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Mountains
Shalcleav--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Cleavage--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Arcia--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 3--Landform: Drainageways

Major Component Description

Shalcleav Series
Elevation: 6,400 to 7,400 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Cleavage Series
Elevation: 6,400 to 7,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Arcia Series
Elevation: 6,400 to 7,400 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Arcia: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Mountain brome, slender wheatgrass, snowberry
Inclusion 3: Nevada bluegrass, willow

Ecological Site

Shalcleav: 025XY057NV
Cleavage: 025XY017NV
Arcia: 025XY012NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY005NV

221--Shalcleav-Cleavage-Shalcleav, moderately steep association

Composition

Major Components
Shalcleav extremely gravelly silt loam, 30 to 75 percent slopes--40 percent
Cleavage extremely gravelly loam, 30 to 50 percent slopes--30 percent
Shalcleav extremely gravelly silt loam, 15 to 30 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Hapgood gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Sumine very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Hogmalat gravelly loam, 15 to 30 percent slopes--4 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Mountains
Shalcleav--Landform: Mountains; geomorphic position: backslope; position on slope: upper
Cleavage--Landform: Mountains; geomorphic position: backslope
Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: lower

Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope

Major Component Description

Shalcleav Series
Elevation: 6,500 to 9,000 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Cleavage Series
Elevation: 6,500 to 9,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series
Elevation: 6,500 to 9,000 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Cleavage: Idaho fescue, black sagebrush, low sagebrush
Shalcleav: Black sagebrush
Inclusion 1: Mountain brome, slender wheatgrass, snowberry
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Bluebunch wheatgrass, curlleaf mountainmahogany
Inclusion 4: None

Ecological Site

Shalcleav: 025XY057NV
Cleavage: 025XY024NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY009NV
Inclusion 3: 028BY043NV
Inclusion 4: none

222--Shalcleav-Coser association

Composition

Major Components
Shalcleav extremely gravelly silt loam, 4 to 30 percent slopes--60 percent
Coser gravelly clay loam, 4 to 15 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Durargidic Argixerolls, fine, montmorillonitic, frigid gravelly loam--5 percent
Inclusion 2: Hapgood gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent
Inclusion 4: Shalper very gravelly loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit
Coser--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Shalcleav Series
Elevation: 6,000 to 7,500 feet

Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Coser Series
Elevation: 6,000 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 2: Mountain brome, snowberry
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 4: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Shalcleav: 025XY057NV
Coser: 025XY017NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY017NV
Inclusion 4: 025XY021NV

223--Shalcleav-Gollaher-Hapgood association

Composition

Major Components
Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--35 percent
Gollaher very gravelly loam, 15 to 50 percent slopes--30 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions
Inclusion 1: Hackwood gravelly loam, 115 to 50 percent slopes--7 percent
Inclusion 2: Cleavage very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Tusel gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Snotown very gravelly coarse sandy loam, 15 to 30 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Shalcleav--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Gollaher--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Hapgood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Shalcleav Series
Elevation: 6,800 to 8,200 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Gollaher Series
Elevation: 6,800 to 8,200 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hapgood Series
Elevation: 6,800 to 8,200 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Shalcleav: Idaho fescue, black sagebrush, bluebunch wheatgrass
Gollaher: Idaho fescue, black sagebrush, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Mountain brome, quaking aspen
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 4: Letterman needlegrass

Ecological Site

Shalcleav: 025XY057NV
Gollaher: 025XY057NV
Hapgood: 025XY004NV
Inclusion 1: 025XY065NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY010NV
Inclusion 4: 025XY028NV

224--Shalcleav-Graley-Arcia association

Composition

Major Components
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--40 percent
Graley extremely gravelly loam, 4 to 15 percent slopes--25 percent
Arcia silt loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid very gravelly loam--5 percent
Inclusion 2: Chen very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid very gravelly loam--1 percent
Inclusion 4: Gollaher extremely gravelly loam, 4 to 15 percent slopes--4 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit; shape of slope: convex
Graley--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Arcia--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex; aspect: north
Inclusion 4--Landform: Hills; geomorphic position: summit; position on slope: upper

Major Component Description

Shalcleav Series
Elevation: 6,100 to 6,400 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Graley Series
Elevation: 6,100 to 6,400 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Arcia Series
Elevation: 6,100 to 6,400 feet
Precipitation: About 14 inches

Air temperature: About 43 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Graley: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Arcia: Idaho fescue, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Letterman needlegrass
Inclusion 4: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Ecological Site

Shalcleav: 025XY057NV
Graley: 025XY007NV
Arcia: 025XY012NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY028NV
Inclusion 4: 025XY057NV

225--Shalcleav-Rodie-Lerrow association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--35 percent
Rodie very gravelly loam, 30 to 50 percent slopes--30 percent
Lerrow gravelly loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Hapgood very gravelly loam, 30 to 50 percent slopes--6 percent
Inclusion 2: Coser gravelly clay loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Tweener very gravelly loam, 30 to 50 percent slopes--3 percent
Inclusion 4: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit
Rodie--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Lerrow--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Major Component Description

Shalcleav Series

Elevation: 6,200 to 7,300 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rodie Series

Elevation: 6,200 to 7,300 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Lerrow Series

Elevation: 6,200 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Rodie: Sandberg bluegrass, Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Lerrow: Antelope bitterbrush
Inclusion 1: Mountain brome, slender wheatgrass, snowberry
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 4: Idaho fescue, bluebunch wheatgrass, serviceberry

Ecological Site

Shalcleav: 025XY057NV
Rodie: 025XY055NV
Lerrow: 025XY009NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY007NV
Inclusion 4: 025XY046NV

226--Shalcleav-Quopant-Rodie association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--30 percent
Quopant very gravelly sandy loam, 30 to 75 percent slopes--30 percent
Rodie very gravelly loam, 30 to 75 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--9 percent
Inclusion 2: Quarz very gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 3: Rock outcrop--2 percent
Inclusion 4: Rubble land--2 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit
Quopant--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Rodie--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Shalcleav Series

Elevation: 5,800 to 6,800 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Quopant Series

Elevation: 5,800 to 6,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rodie Series

Elevation: 5,800 to 6,800 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Quopant: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Rodie: Sandberg bluegrass, Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Inclusion 2: Thurber needlegrass, bluebunch wheatgrass
Inclusion 3: None
Inclusion 4: None

Ecological Site

Shalcleav: 025XY057NV
Quopant: 024XY031NV
Rodie: 025XY055NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY014NV
Inclusion 3: none
Inclusion 4: none

227--Shalcleav, steep-Shalcleav-Rodie association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--50 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--20 percent
Rodie very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hapgood gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Typic Argixerolls, fine, montmorillonitic, frigid gravelly loam--4 percent
Inclusion 3: Aridic Durixerolls, loamy-skeletal, mixed, frigid, shallow very gravelly loam--4 percent
Inclusion 4: Shalper gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Shalcleav--Landform: Hills; geomorphic position: summit
Rodie--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Shalcleav Series

Elevation: 5,500 to 7,000 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series

Elevation: 5,500 to 7,000 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rodie Series

Elevation: 5,500 to 7,000 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Rodie: Sandberg bluegrass, Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Bluebunch wheatgrass

Ecological Site

Shalcleav: 025XY057NV
Shalcleav: 025XY057NV
Rodie: 025XY055NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY027NV
Inclusion 3: 024XY031NV
Inclusion 4: 025XY021NV

228--Shalcleav-Rodie-Shalper association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--45 percent
Rodie very gravelly loam, 15 to 50 percent slopes--25 percent
Shalper very gravelly loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Typic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--8 percent
Inclusion 2: Shalcleav very gravelly silt loam, 30 to 50 percent slopes--5 percent
Inclusion 3: Argic Pachic Cryoborolls, fine, montmorillonitic very gravelly loam, 15 to 50 percent slopes--1 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Rodie--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Shalper--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Shalcleav Series

Elevation: 6,200 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rodie Series

Elevation: 6,200 to 7,300 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Shalper Series

Elevation: 6,200 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, cheatgrass
Rodie: Thurber needlegrass, black sagebrush, cheatgrass
Shalper: Bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Mountain brome, snowberry
Inclusion 4: None

Ecological Site

Shalcleav: 025XY057NV
Rodie: 025XY055NV
Shalper: 025XY021NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY004NV
Inclusion 4: none

229--Shalcleav-Shalper-Cleavage association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--35 percent

Shalper very gravelly loam, 15 to 30 percent slopes--25 percent

Cleavage very gravelly loam, 8 to 30 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--5 percent

Inclusion 2: Sumine very gravelly loam, 15 to 50 percent slopes--5 percent

Inclusion 3: Hapgood very gravelly loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills

Shalcleav--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south

Cleavage--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north

Inclusion 1--Landform: Hills; geomorphic position: summit; position on slope: upper

Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south

Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Shalcleav Series

Elevation: 6,400 to 7,500 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 60 percent gravel

Surface layer texture: Extremely gravelly silt loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalper Series

Elevation: 6,400 to 7,500 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 85 days

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Cleavage Series

Elevation: 6,400 to 7,500 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 50 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from mixed rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Shalper: Wyoming big sagebrush, bluebunch wheatgrass

Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush

Inclusion 1: Utah juniper, black sagebrush

Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Inclusion 3: Mountain brome, snowberry

Ecological Site

Shalcleav: 025XY057NV

Shalper: 025XY021NV

Cleavage: 025XY017NV

Inclusion 1: 025XY060NV

Inclusion 2: 025XY009NV

Inclusion 3: 025XY004NV

232--Shalcleav-Quarz association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 4 to 30 percent slopes--60 percent

Quarz very gravelly loam, 4 to 15 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--6 percent

Inclusion 2: Aridic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--4 percent

Inclusion 3: Typic Argixerolls, fine, montmorillonitic, frigid gravelly loam--3 percent

Inclusion 4: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit; position on slope: lower; shape of slope: convex
Quarz--Landform: Hills; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description

Shalcleav Series

Elevation: 5,800 to 7,200 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Quarz Series

Elevation: 5,800 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Black sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Quarz: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Inclusion 1: Black sagebrush, bluebunch wheatgrass
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Idaho fescue, basin big sagebrush
Inclusion 4: Idaho fescue, antelope bitterbrush, mountain big sagebrush

Ecological Site

Shalcleav: 025XY057NV
Quarz: 025XY014NV
Inclusion 1: 025XY055NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY027NV
Inclusion 4: 025XY012NV

235--Shalcleav-Shalper association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 30 percent slopes--45 percent
Shalper very gravelly loam, 15 to 30 percent slopes--40 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--6 percent
Inclusion 2: Quarz gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Durargidic Argixerolls, loamy-skeletal, mixed, frigid gravelly loam--3 percent
Inclusion 4: Scalfar very gravelly loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Shalper--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: plane

Major Component Description

Shalcleav Series

Elevation: 5,800 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam

Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalper Series
Elevation: 5,800 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: None
Inclusion 2: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush

Ecological Site

Shalcleav: 025XY057NV
Shalper: 025XY021NV
Inclusion 1: none
Inclusion 2: 025XY014NV
Inclusion 3: 025XY021NV
Inclusion 4: 025XY024NV

236--Shalcleav-McIvey association

Composition

Major Components
Shalcleav extremely gravelly silt loam, 4 to 30 percent slopes--70 percent
McIvey gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Rodie very gravelly loam, 15 to 50 percent slopes--6 percent
Inclusion 2: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--6 percent
Inclusion 3: Rock outcrop--2 percent
Inclusion 4: Tweener gravelly loam, 15 to 30 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: summit; shape of slope: convex
McIvey--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Major Component Description

Shalcleav Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

McIvey Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, Webber ricegrass, black sagebrush
McIvey: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Sandberg bluegrass, black sagebrush, bud sagebrush
Inclusion 3: None
Inclusion 4: Idaho fescue, antelope bitterbrush,

bluebunch wheatgrass

Ecological Site

Shalcleav: 025XY057NV
McIvey: 025XY012NV
Inclusion 1: 025XY055NV
Inclusion 2: 025XY026NV
Inclusion 3: none
Inclusion 4: 025XY007NV

237--Shalcleav-Gollaher-Keman association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--40 percent
Gollaher very gravelly loam, 15 to 50 percent slopes--30 percent
Keman gravelly loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Pachic Haploxerolls, loamy-skeletal, mixed, frigid gravelly silt loam--7 percent
Inclusion 2: Shalcleav very gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Elhina gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 4: Pibler gravelly loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains and intermontane basins
Shalcleav--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Gollaher--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Keman--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit
Inclusion 3--Landform: Fan remnants
Inclusion 4--Landform: Fan remnants; geomorphic position: summit; position on slope: lower

Major Component Description

Shalcleav Series

Elevation: 6,000 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Gollaher Series

Elevation: 6,000 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Keman Series

Elevation: 6,000 to 7,600 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 50 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush
Gollaher: Thurber needlegrass, black sagebrush
Keman: Idaho fescue, mountain big sagebrush
Inclusion 1: Idaho fescue, antelope bitterbrush
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Indian ricegrass, Thurber needlegrass, black sagebrush

Ecological Site

Shalcleav: 025XY057NV
Gollaher: 025XY057NV
Keman: 025XY056NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY057NV
Inclusion 3: 024XY031NV
Inclusion 4: 024XY030NV

238--Shalcleav-Hapgood-Arcia association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--50 percent

Hapgood very gravelly loam, 30 to 50 percent slopes--20 percent

Arcia silt loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Gollaher extremely gravelly loam, 15 to 50 percent slopes--6 percent

Inclusion 2: Snotown very gravelly loam, 50 to 75 percent slopes--3 percent

Inclusion 3: Sumine very gravelly loam, 30 to 50 percent slopes--6 percent

Map Unit Setting

Landscape position: Mountains

Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex

Hapgood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Arcia--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south

Inclusion 1--Landform: Mountains; geomorphic position: summit

Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south

Major Component Description

Shalcleav Series

Elevation: 6,000 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Hapgood Series

Elevation: 6,000 to 7,000 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Arcia Series

Elevation: 6,000 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush

Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry

Arcia: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Inclusion 2: Letterman needlegrass, tailcup lupine

Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Shalcleav: 025XY057NV
Hapgood: 025XY004NV
Arcia: 025XY012NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY028NV
Inclusion 3: 025XY009NV

239--Shalcleav-Tweener-Rock outcrop association

Composition

Major Components

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--45 percent

Tweener very gravelly loam, 15 to 50 percent slopes--25 percent

Rock outcrop--15 percent

Contrasting Inclusions

Inclusion 1: Cleavage extremely gravelly loam, 4 to 15 percent slopes--5 percent

Inclusion 2: Hapgood very gravelly loam, 15 to 50 percent slopes--5 percent

Inclusion 3: Arva gravelly loam, 4 to 15 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills
Shalcleav--Landform: Hills; geomorphic position: backslope
Tweener--Landform: Hills; geomorphic position: backslope
Rock outcrop--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: summit; shape of slope: concave

Major Component Description

Shalcleav Series
Elevation: 6,400 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Tweener Series
Elevation: 6,400 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rock outcrop Miscellaneous Area
Elevation: 6,400 to 7,600 feet

Dominant Present Vegetation

Shalcleav: Thurber needlegrass, black sagebrush
Tweener: Idaho fescue, antelope bitterbrush
Rock outcrop: None
Inclusion 1: Webber ricegrass, black sagebrush, low sagebrush
Inclusion 2: Mountain brome, slender wheatgrass
Inclusion 3: Idaho fescue

Ecological Site

Shalcleav: 025XY057NV
Tweener: 025XY007NV
Rock outcrop: None
Inclusion 1: 025XY024NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY027NV

240--Gumble-Shalper-Izar association

Composition

Major Components
Gumble gravelly sandy loam, 4 to 15 percent slopes--30 percent
Shalper very gravelly loam, 8 to 30 percent slopes--30 percent
Izar very gravelly loam, 8 to 30 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Fenelon gravelly silt loam, 2 to 8 percent slopes--7 percent
Inclusion 2: Hundraw gravelly fine sandy loam, 8 to 30 percent slopes--6 percent
Inclusion 3: Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--1 percent
Inclusion 4: Booford gravelly clay loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Gumble--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Izar--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave

Major Component Description

Gumble Series
Elevation: 5,700 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Shalper Series
Elevation: 5,700 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Izar Series
Elevation: 5,700 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Gumble: Wyoming big sagebrush, bluebunch wheatgrass
Shalper: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Izar: Indian ricegrass, black sagebrush
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Utah juniper, black sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Thurber needlegrass, bluebunch wheatgrass

Ecological Site

Gumble: 025XY019NV
Shalper: 025XY021NV
Izar: 024XY030NV
Inclusion 1: 024XY031NV
Inclusion 2: 025XY060NV
Inclusion 3: 025XY057NV
Inclusion 4: 025XY014NV

250--Chuska-Chuska, strongly sloping-Soughe association

Composition

Major Components
Chuska gravelly loam, 2 to 8 percent slopes--50 percent
Chuska gravelly loam, 8 to 15 percent slopes--25 percent
Soughe very gravelly coarse sandy loam, 15 to 30 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Lithic Xeric Torriorthents, loamy, mixed (calcareous), mesic very gravelly loam--5 percent
Inclusion 2: Xerollic Camborthids, coarse-loamy, mixed, mesic silt loam--4 percent
Inclusion 3: Cumulic Haplaquolls, coarse-loamy, mixed, mesic--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Chuska--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Chuska--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Soughe--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Drainageways

Major Component Description

Chuska Series
Elevation: 5,200 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Chuska Series
Elevation: 5,200 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees

Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Soughe Series
Elevation: 5,200 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly coarse sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Chuska: Sandberg bluegrass, Wyoming big sagebrush
Chuska: Sandberg bluegrass, Wyoming big sagebrush
Soughe: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Nevada bluegrass, basin wildrye

Ecological Site

Chuska: 025XY019NV
Chuska: 025XY019NV
Soughe: 025XY015NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY003NV

251--Chuska-Dewar-Enko association

Composition

Major Components
Chuska gravelly loam, 4 to 15 percent slopes--40 percent
Dewar gravelly silt loam, 4 to 15 percent slopes--30 percent
Enko fine sandy loam, 8 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Bilbo very gravelly loam, 15 to 50 percent slopes--7 percent
Inclusion 2: Jackpot sandy loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow gravelly silt loam--2 percent
Inclusion 4: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly silt loam--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Chuska--Landform: Fan remnants; geomorphic position: summit
Dewar--Landform: Fan remnants; geomorphic position: summit
Enko--Landform: Inset fans
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Inset fans

Major Component Description

Chuska Series
Elevation: 5,200 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Dewar Series
Elevation: 5,200 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series
Elevation: 5,200 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days

Surface rock fragments: 2 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Chuska: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Dewar: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Enko: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Chuska: 025XY019NV
Dewar: 025XY019NV
Enko: 025XY019NV
Inclusion 1: 025XY015NV
Inclusion 2: 024XY017NV
Inclusion 3: 025XY025NV
Inclusion 4: 025XY019NV

252--Chuska-Jackpot-Soughe association

Composition

Major Components

Chuska gravelly loam, 4 to 15 percent slopes--45 percent
Jackpot sandy loam, 4 to 15 percent slopes--20 percent
Soughe very gravelly coarse sandy loam, 2 to 8 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Chuska very gravelly loam, 15 to 30 percent slopes--8 percent
Inclusion 2: Orovada sandy loam, 2 to 8 percent slopes--4 percent
Inclusion 3: Xerollic Calciorthids, loamy-skeletal, mixed, mesic very gravelly loam--2 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Chuska--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Jackpot--Landform: Hills; geomorphic position: summit; shape of slope: convex
Soughe--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Chuska Series

Elevation: 5,000 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Jackpot Series

Elevation: 5,000 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Soughe Series

Elevation: 5,000 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly coarse sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Chuska: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass

Jackpot: Indian ricegrass, Wyoming big sagebrush, needleandthread
Soughe: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: None

Ecological Site

Chuska: 025XY019NV
Jackpot: 024XY017NV
Soughe: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY015NV
Inclusion 4: none

253--Chuska-Jackpot-Dewar association

Composition

Major Components

Chuska gravelly loam, 2 to 4 percent slopes--50 percent
Jackpot sandy loam, 4 to 15 percent slopes--20 percent
Dewar gravelly silt loam, 2 to 8 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Durixerollic Haplargids, fine-loamy, mixed, mesic gravelly loam--5 percent
Inclusion 2: Bilbo very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Hunewill gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Puett gravelly sandy loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Chuska--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Jackpot--Landform: Pediments; geomorphic position: backslope; shape of slope: plane
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 4--Landform: Pediments; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Major Component Description

Chuska Series

Elevation: 5,200 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Jackpot Series

Elevation: 5,200 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dewar Series

Elevation: 5,200 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Chuska: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Jackpot: Indian ricegrass, Wyoming big sagebrush, needleandthread
Dewar: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big

sagebrush, basin wildrye
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 4: Indian ricegrass, Wyoming big sagebrush, black sagebrush

Ecological Site

Chuska: 025XY019NV
Jackpot: 024XY017NV
Dewar: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY015NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY025NV

260--Bancy-Heckison association

Composition

Major Components

Bancy silty clay loam, 4 to 15 percent slopes--60 percent
Heckison silt loam, 2 to 8 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Xerollic Camborthids, loamy-skeletal, mixed, mesic--5 percent
Inclusion 2: Lithic Xerollic Haplargids, clayey, montmorillonitic, mesic very gravelly loam--5 percent
Inclusion 3: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--3 percent
Inclusion 4: Welch loam, drained, 0 to 2 percent slopes, rarely flooded--2 percent

Map Unit Setting

Landscape position: Plateaus
Bancy--Landform: Plateaus; geomorphic position: summit; shape of slope: convex
Heckison--Landform: Plateaus; geomorphic position: summit; shape of slope: concave
Inclusion 1--Landform: Plateaus; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Plateaus; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Plateaus; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 4--Landform: Drainageways

Major Component Description

Bancy Series

Elevation: 5,200 to 6,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 95 days
Surface layer texture: Silty clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Heckison Series

Elevation: 5,200 to 6,000 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Dominant Present Vegetation

Bancy: Idaho fescue, bluebunch wheatgrass, low sagebrush
Heckison: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Basin big sagebrush, basin wildrye

Ecological Site

Bancy: 025XY017NV
Heckison: 025XY014NV
Inclusion 1: 025XY015NV
Inclusion 2: 025XY015NV
Inclusion 3: 025XY015NV
Inclusion 4: 025XY003NV

270--Cameek-Bilbo-Cameek, gently sloping association

Composition

Major Components

Cameek silt loam, 4 to 15 percent slopes--55 percent

Bilbo very gravelly sandy clay loam, 15 to 50 percent slopes--15 percent
Cameek silt loam, 2 to 4 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Gochea gravelly loam, 2 to 8 percent slopes--8 percent
Inclusion 2: Igdell gravelly loam, 4 to 15 percent slopes--3 percent
Inclusion 3: Arva gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 4: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Cameek--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Bilbo--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Cameek--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; aspect: north
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope

Major Component Description

Cameek Series
Elevation: 5,100 to 7,000 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Bilbo Series
Elevation: 5,100 to 7,000 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Cameek Series
Elevation: 5,100 to 7,000 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Cameek: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Bilbo: Wyoming big sagebrush, bluebunch wheatgrass
Cameek: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Idaho fescue
Inclusion 4: None

Ecological Site

Cameek: 025XY014NV
Bilbo: 025XY015NV
Cameek: 025XY014NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY027NV
Inclusion 4: none

280--Quarz-Shalper-Shalcleav association

Composition

Major Components
Quarz very gravelly loam, 15 to 50 percent slopes--35 percent
Shalper very gravelly loam, 15 to 30 percent slopes--30 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Shalcleav very gravelly loam, 15 to 30 percent slopes--8 percent
Inclusion 2: Loncan very gravelly loam, 30 to 50 percent slopes--4 percent

Inclusion 3: Tweener very gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: McIvey gravelly silt loam, 4 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Quarz--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Shalcleav--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Quarz Series
Elevation: 5,500 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalper Series
Elevation: 5,500 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series
Elevation: 5,500 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Quarz: Antelope bitterbrush, bluebunch wheatgrass
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Shalcleav: Sandberg bluegrass, Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue, antelope bitterbrush
Inclusion 3: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 4: Idaho fescue, antelope bitterbrush

Ecological Site

Quarz: 025XY009NV
Shalper: 025XY021NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY012NV
Inclusion 3: 025XY007NV
Inclusion 4: 025XY012NV

281--Quarz-Cotant association

Composition

Major Components
Quarz very gravelly loam, 15 to 30 percent slopes--55 percent
Cotant gravelly clay loam, 15 to 30 percent slopes--30 percent
Contrasting Inclusions
Inclusion 1: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--5 percent
Inclusion 2: Shalper very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Sumine very gravelly loam, 30 to 50 percent slopes--3 percent
Inclusion 4: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills
Quarz--Landform: Hills; geomorphic position: summit; shape of slope: plane

Cotant--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 4--Landform: Drainageways

Major Component Description

Quarz Series
Elevation: 5,900 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Cotant Series
Elevation: 5,900 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Quarz: Bluebunch wheatgrass, cheatgrass
Cotant: Idaho fescue, Sandberg bluegrass, bluebunch wheatgrass, low sagebrush
Inclusion 1: Idaho fescue, basin big sagebrush
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 4: Thurber needlegrass, big sagebrush, bluebunch wheatgrass

Ecological Site

Quarz: 025XY014NV
Cotant: 025XY017NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY021NV
Inclusion 3: 025XY009NV
Inclusion 4: 025XY014NV

282--Quarz, steep-Quarz-Arcia association

Composition

Major Components
Quarz very gravelly loam, 15 to 50 percent slopes--40 percent
Quarz very gravelly loam, 4 to 15 percent slopes--25 percent
Arcia silt loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--5 percent
Inclusion 2: Shalper very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Chen extremely cobbly loam, 4 to 15 percent slopes--4 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Quarz--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Quarz--Landform: Hills; geomorphic position: summit
Arcia--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: summit; shape of slope: plane
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Quarz Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Quarz Series
Elevation: 5,900 to 6,600 feet

Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Arcia Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Quarz: Bluebunch wheatgrass
Quarz: Bluebunch wheatgrass, bottlebrush squirreltail
Arcia: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Wyoming big sagebrush, basin big sagebrush, bluebunch wheatgrass
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 4: None

Ecological Site

Quarz: 025XY009NV
Quarz: 025XY014NV
Arcia: 025XY012NV
Inclusion 1: 025XY021NV
Inclusion 2: 025XY021NV
Inclusion 3: 025XY017NV
Inclusion 4: none

290--Gochea-Vadaho association

Composition

Major Components
Gochea loam, 2 to 8 percent slopes--65 percent
Vadaho silt loam, 2 to 8 percent slopes--30 percent

Contrasting Inclusions
Inclusion 1: Aridic Duric Haploxerolls, coarse-loamy, mixed, frigid very gravelly loam--3 percent
Inclusion 2: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Gochea--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Vadaho--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Drainageways

Major Component Description

Gochea Series
Elevation: 5,500 to 5,800 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Vadaho Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 11 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Gochea: Big sagebrush, bottlebrush squirreltail
Vadaho: Basin big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Nevada bluegrass, basin big sagebrush, basin wildrye

Ecological Site

Gochea: 025XY014NV
Vadaho: 025XY014NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY003NV

291--Gochea-Simon association

Composition

Major Components

Gochea loam, 2 to 8 percent slopes--55 percent
Simon silt loam, 4 to 15 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Aridic Duric Haploxerolls, fine-loamy, mixed, frigid very gravelly loam--5 percent
Inclusion 2: Aeric Fluvaquents, coarse-loamy, mixed (calcareous), mesic sandy loam--3 percent
Inclusion 3: Hunnton silt loam, 2 to 4 percent slopes--1 percent
Inclusion 4: Wieland silt loam, 2 to 4 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Gochea--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Simon--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Fan skirts; position on slope: lower
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; position on slope: lower
Inclusion 4--Landform: Fan remnants; position on slope: lower

Major Component Description

Gochea Series

Elevation: 5,600 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Simon Series

Elevation: 5,600 to 6,200 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Gochea: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Simon: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Sandberg bluegrass, basin big sagebrush
Inclusion 3: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Inclusion 4: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass

Ecological Site

Gochea: 025XY014NV
Simon: 025XY014NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY019NV

300--Ola, steep-Earcree-Ola association

Composition

Major Components

Ola gravelly coarse sandy loam, 15 to 50 percent slopes--40 percent
Earcree gravelly coarse sandy loam, 30 to 50 percent slopes--30 percent
Ola gravelly coarse sandy loam, 8 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--8 percent
Inclusion 2: Welch silt loam, 0 to 2 percent slopes, frequently flooded--3 percent
Inclusion 3: Lithic Xeric Torriorthents, sandy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 4: Xica sandy loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Ola--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Earcree--Landform: Mountains; geomorphic position:

backslope; shape of slope: concave; aspect: north
Ola--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Mountains; geomorphic position: backslope
Inclusion 4--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex

Major Component Description

Ola Series
Elevation: 6,000 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 20 percent gravel
Surface layer texture: Gravelly coarse sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Earcree Series
Elevation: 6,000 to 8,500 feet
Precipitation: About 16 inches
Air temperature: About 39 degrees
Frost-free season: About 70 days
Surface rock fragments: 5 percent cobbles; 20 percent gravel
Surface layer texture: Gravelly coarse sandy loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from granitic rocks

Ola Series
Elevation: 6,000 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 20 percent gravel
Surface layer texture: Gravelly coarse sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Dominant Present Vegetation

Ola: Idaho fescue, bluebunch wheatgrass
Earcree: Idaho fescue, mountain big sagebrush, snowberry
Ola: Idaho fescue, bluebunch wheatgrass
Inclusion 1: None
Inclusion 2: Alpine timothy, sedge
Inclusion 3: Bluebunch wheatgrass, oceanspray
Inclusion 4: Idaho fescue, black sagebrush, low sagebrush

Ecological Site

Ola: 025XY012NV
Earcree: 025XY004NV
Ola: 025XY012NV
Inclusion 1: none
Inclusion 2: 025XY005NV
Inclusion 3: 025XY058NV
Inclusion 4: 025XY024NV

310--Agort-Xica, sandy loam-Xica association

Composition

Major Components
Agort gravelly sandy loam, 15 to 30 percent slopes--35 percent
Xica sandy loam, 4 to 15 percent slopes--35 percent
Xica gravelly loamy coarse sand, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Lithic Xeric Torriorthents, sandy-skeletal, mixed, mesic very gravelly loam--5 percent
Inclusion 2: Ola sandy loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Rock outcrop--5 percent

Map Unit Setting

Landscape position: Mountains
Agort--Landform: Mountains; geomorphic position: backslope
Xica--Landform: Mountains; geomorphic position: summit
Xica--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope

Major Component Description

Agort Series
Elevation: 6,000 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Xica Series
Elevation: 6,000 to 8,000 feet
Precipitation: About 18 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum derived from granitic rocks

Xica Series
Elevation: 6,000 to 8,000 feet
Precipitation: About 18 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Gravelly loamy coarse sand
Drainage class: Well drained
Dominant parent material: Residuum derived from granitic rocks

Dominant Present Vegetation

Agort: Antelope bitterbrush, bluebunch wheatgrass
Xica: Idaho fescue, black sagebrush, low sagebrush
Xica: Thurber needlegrass, black sagebrush
Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, oceanspray
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, oceanspray
Inclusion 3: None

Ecological Site

Agort: 025XY007NV
Xica: 025XY024NV
Xica: 025XY057NV
Inclusion 1: 025XY058NV
Inclusion 2: 025XY058NV
Inclusion 3: none

320--Hussell-Nevador association

Composition

Major Components
Hussell coarse sandy loam, 8 to 30 percent slopes--60 percent
Nevador loamy fine sand, 2 to 8 percent slopes--30 percent
Contrasting Inclusions
Inclusion 1: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--5 percent
Inclusion 2: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--3 percent
Inclusion 3: Valmy sandy loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Hussell--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Nevador--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan skirts

Major Component Description

Hussell Series
Elevation: 5,300 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Coarse sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from granitic rocks

Nevador Series
Elevation: 5,300 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface layer texture: Loamy fine sand
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Hussell: Indian ricegrass, Wyoming big sagebrush, needleandthread
Nevador: Sandberg bluegrass, Wyoming big

sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, Thurber needlegrass, big sagebrush
Inclusion 2: Indian ricegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Basin wildrye, big sagebrush, black greasewood

Ecological Site

Hussell: 024XY017NV
Nevador: 025XY019NV
Inclusion 1: 024XY017NV
Inclusion 2: 024XY017NV
Inclusion 3: 024XY022NV

340--Xipe-Valmy-Ocala association

Composition

Major Components

Xipe silt loam, 0 to 2 percent slopes, frequently flooded--50 percent
Valmy fine sandy loam, 2 to 8 percent slopes--20 percent
Ocala silt loam, 0 to 2 percent slopes, rarely flooded--15 percent

Contrasting Inclusions

Inclusion 1: Xipe silt loam, 0 to 2 percent slopes, occasionally flooded--10 percent
Inclusion 2: Xipe silt loam, drained, 0 to 2 percent slopes, rarely flooded--4 percent
Inclusion 3: Ocala silt loam, strongly saline-alkali, 0 to 2 percent slopes, occasionally flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Xipe--Landform: Flood plains
Valmy--Landform: Stream terraces
Ocala--Landform: Flood plains; shape of slope: concave
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Alluvial flats

Major Component Description

Xipe Series

Elevation: 5,000 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Valmy Series

Elevation: 5,000 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 105 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Ocala Series

Elevation: 5,000 to 5,500 feet
Precipitation: About 7 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Xipe: Nevada bluegrass, basin big sagebrush, basin wildrye, sedge
Valmy: Basin big sagebrush, basin wildrye, black greasewood
Ocala: Alkali sacaton, basin wildrye, black greasewood, inland saltgrass
Inclusion 1: Basin big sagebrush, black greasewood, western wheatgrass
Inclusion 2: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 3: Basin wildrye, black greasewood

Ecological Site

Xipe: 025XY001NV
Valmy: 024XY022NV
Ocala: 024XY007NV
Inclusion 1: 024XY006NV
Inclusion 2: 025XY003NV
Inclusion 3: 024XY008NV

341--Xipe-Batan-Devilsgait association

Composition

Major Components

Xipe silt loam, drained, 0 to 2 percent slopes, 0 to 2 percent slopes--60 percent
Batan silt loam, 2 to 4 percent slopes--15 percent
Devilsgait silt loam, drained, 0 to 2 percent slopes,

rarely flooded--15 percent

Contrasting Inclusions

Inclusion 1: Xipe silt loam, 0 to 2 percent slopes, frequently flooded--5 percent

Inclusion 2: Cumulic Endoaquolls, fine-loamy, mixed (calcareous), mesic silt loam--5 percent

Map Unit Setting

Landscape position: Intermontane basins

Xipe--Landform: Flood plains

Batan--Landform: Fan skirts

Devilsgait--Landform: Flood plains

Inclusion 1--Landform: Flood plains; position on slope: upper

Inclusion 2--Landform: Flood plains; position on slope: upper

Major Component Description

Xipe Series

Elevation: 5,100 to 5,300 feet

Precipitation: About 8 inches

Air temperature: About 47 degrees

Frost-free season: About 110 days

Surface layer texture: Silt loam

Drainage class: Very poorly drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Batan Series

Elevation: 5,100 to 5,300 feet

Precipitation: About 8 inches

Air temperature: About 48 degrees

Frost-free season: About 110 days

Surface layer texture: Silt loam

Drainage class: Moderately well drained

Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Devilsgait Series

Elevation: 5,100 to 5,300 feet

Precipitation: About 8 inches

Air temperature: About 47 degrees

Frost-free season: About 100 days

Surface layer texture: Silt loam

Drainage class: Very poorly drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Xipe: Basin big sagebrush

Batan: Basin wildrye, black greasewood, inland saltgrass

Devilsgait: Sandberg bluegrass, basin big sagebrush, basin wildrye

Inclusion 1: Basin wildrye, willow

Inclusion 2: Basin big sagebrush

Ecological Site

Xipe: 024XY006NV

Batan: 024XY022NV

Devilsgait: 025XY003NV

Inclusion 1: 025XY001NV

Inclusion 2: 024XY006NV

380--Elhina gravelly loam, 2 to 8 percent slopes

Composition

Major Components

Elhina gravelly loam, 2 to 8 percent slopes--85 percent

Contrasting Inclusions

Inclusion 1: Peeko silt loam, 4 to 15 percent slopes--5 percent

Inclusion 2: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--5 percent

Inclusion 3: Igdell very gravelly clay loam, 15 to 30 percent slopes--3 percent

Inclusion 4: Forvic silt loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts

Elhina--Landform: Fan remnants; geomorphic position: summit

Inclusion 1--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: convex

Inclusion 2--Landform: Drainageways

Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Inclusion 4--Landform: Fan remnants; geomorphic position: summit; position on slope: lower

Major Component Description

Elhina Series

Elevation: 5,200 to 5,800 feet

Precipitation: About 10 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 45 percent gravel

Surface layer texture: Gravelly loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from volcanic rocks

Dominant Present Vegetation

Elhina: Black sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 4: Idaho fescue

Ecological Site

Elhina: 024XY031NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY017NV
Inclusion 4: 025XY027NV

400--Zapa, moderately steep-Zapa-Chuska association

Composition

Major Components

Zapa very gravelly silt loam, 15 to 30 percent slopes--35 percent
Zapa very gravelly silt loam, 4 to 15 percent slopes--35 percent
Chuska gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--6 percent
Inclusion 2: Xerollic Durargids, loamy-skeletal, mixed, mesic gravelly loam--4 percent
Inclusion 3: Xerollic Durargids, loamy, mixed, mesic, shallow gravelly loam--3 percent
Inclusion 4: Jackpot sandy loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Zapa--Landform: Fan remnants; geomorphic position: backslope
Zapa--Landform: Fan remnants; geomorphic position: summit
Chuska--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 3--Landform: Pediments; geomorphic position: summit
Inclusion 4--Landform: Pediments

Major Component Description

Zapa Series

Elevation: 5,200 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Zapa Series

Elevation: 5,200 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chuska Series

Elevation: 5,200 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 1 percent cobbles; 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks

Dominant Present Vegetation

Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Chuska: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Indian ricegrass, black sagebrush
Inclusion 4: Wyoming big sagebrush, needleandthread

Ecological Site

Zapa: 024XY030NV
Zapa: 024XY030NV

Chuska: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 024XY030NV
Inclusion 4: 024XY017NV

401--Zapa-Izar-Shalper association

Composition

Major Components

Zapa very gravelly silt loam, 4 to 15 percent slopes--35 percent
Izar very gravelly loam, 15 to 50 percent slopes--35 percent
Shalper very gravelly sandy loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Loomis very gravelly clay loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Yuko gravelly sandy loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Chuska loam, 4 to 15 percent slopes--3 percent
Inclusion 4: Aridic Haploxerolls, fine-loamy, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Zapa--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Izar--Landform: Pediments; geomorphic position: backslope; shape of slope: plane; aspect: south
Shalper--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: north
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 4--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Zapa Series

Elevation: 5,200 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Izar Series

Elevation: 5,200 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Shalper Series

Elevation: 5,200 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Izar: Indian ricegrass, Sandberg bluegrass, Thurber needlegrass, black sagebrush
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Zapa: 024XY030NV
Izar: 024XY030NV
Shalper: 025XY021NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY015NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY012NV

403--Zapa-Puett-Shalper association

Composition

Major Components

Zapa very gravelly silt loam, 4 to 15 percent slopes--40 percent

Puett gravelly sandy loam, 15 to 50 percent slopes--25 percent

Shalper very gravelly sandy loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Izar very gravelly loam, 15 to 50 percent slopes--5 percent

Inclusion 2: Yuko gravelly sandy loam, 15 to 50 percent slopes--5 percent

Inclusion 3: Aridic Argixerolls, fine-loamy, mixed, frigid very gravelly loam--3 percent

Inclusion 4: Oupico sandy loam, 2 to 4 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins

Zapa--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex

Puett--Landform: Hills; geomorphic position: backslope; aspect: south

Shalper--Landform: Pediments; geomorphic position: backslope; aspect: north

Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: south

Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south

Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: north

Inclusion 4--Landform: Inset fans

Major Component Description

Zapa Series

Elevation: 6,000 to 6,500 feet

Precipitation: About 9 inches

Air temperature: About 47 degrees

Frost-free season: About 110 days

Surface rock fragments: 55 percent gravel

Surface layer texture: Very gravelly silt loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Puett Series

Elevation: 6,000 to 6,500 feet

Precipitation: About 9 inches

Air temperature: About 47 degrees

Frost-free season: About 110 days

Surface rock fragments: 50 percent gravel

Surface layer texture: Gravelly sandy loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Shalper Series

Elevation: 6,000 to 6,500 feet

Precipitation: About 10 inches

Air temperature: About 45 degrees

Frost-free season: About 100 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Very gravelly sandy loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush

Puett: Indian ricegrass, Wyoming big sagebrush, black sagebrush

Shalper: Wyoming big sagebrush, bluebunch wheatgrass

Inclusion 1: Indian ricegrass, black sagebrush

Inclusion 2: Bluebunch wheatgrass

Inclusion 3: Idaho fescue, antelope bitterbrush, mountain big sagebrush

Inclusion 4: Wyoming big sagebrush, needleandthread

Ecological Site

Zapa: 024XY030NV

Puett: 025XY025NV

Shalper: 025XY021NV

Inclusion 1: 024XY030NV

Inclusion 2: 025XY015NV

Inclusion 3: 025XY012NV

Inclusion 4: 024XY017NV

404--Zapa-Peeko-Oupico association

Composition

Major Components

Zapa very gravelly silt loam, 2 to 8 percent slopes--45 percent

Peeko silt loam, 4 to 15 percent slopes--25 percent

Oupico loam, 2 to 8 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Dewar gravelly silt loam, 4 to 15 percent slopes--5 percent

Inclusion 2: Hundraw gravelly loam, 15 to 30 percent slopes--5 percent

Inclusion 3: Enko loam, gravelly substratum, 2 to 4 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Zapa--Landform: Fan remnants; geomorphic position: summit
Peeko--Landform: Fan remnants; geomorphic position: backslope
Oupico--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Inset fans

Major Component Description

Zapa Series
Elevation: 5,600 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Peeko Series
Elevation: 5,600 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Oupico Series
Elevation: 5,600 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Peeko: Indian ricegrass, Sandberg bluegrass, Thurber needlegrass, black sagebrush
Oupico: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, cheatgrass
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, cheatgrass

Ecological Site

Zapa: 024XY030NV
Peeko: 024XY030NV
Oupico: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV

405--Zapa, steep-Zapa-Hundraw association

Composition

Major Components
Zapa very gravelly silt loam, 4 to 15 percent slopes--30 percent
Zapa very gravelly silt loam, 30 to 50 percent slopes--30 percent
Hundraw gravelly fine sandy loam, 8 to 30 percent slopes, eroded--25 percent
Contrasting Inclusions
Inclusion 1: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic sandy loam--7 percent
Inclusion 2: Wiffo very gravelly loam, 2 to 4 percent slopes--5 percent
Inclusion 3: Cobre silt loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Zapa--Landform: Fan remnants; geomorphic position: backslope
Zapa--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Hundraw--Landform: Pediments; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Pediments; geomorphic position: backslope; position on slope: lower

Major Component Description

Zapa Series
Elevation: 6,100 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Zapa Series
Elevation: 6,100 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hundraw Series
Elevation: 6,100 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation

Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Wyoming big sagebrush, basin wildrye
Inclusion 3: Wyoming big sagebrush

Ecological Site

Zapa: 024XY030NV
Zapa: 024XY030NV
Hundraw: 025XY060NV
Inclusion 1: 024XY031NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

406--Zapa-Pibler association

Composition

Major Components
Zapa very gravelly silt loam, 15 to 50 percent slopes--55 percent
Pibler very gravelly loam, 2 to 8 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Pachic Argixerolls, loamy-skeletal, mixed, frigid gravelly silt loam--5 percent
Inclusion 2: Aridic Argixerolls, loamy-skeletal, mixed, mesic very gravelly loam--3 percent
Inclusion 3: Gollaher very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Zapa--Landform: Fan remnants; geomorphic position: backslope
Pibler--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: summit

Major Component Description

Zapa Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Pibler Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Zapa: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Pibler: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: Antelope bitterbrush
Inclusion 2: Thurber needlegrass, big sagebrush, cheatgrass
Inclusion 3: Thurber needlegrass, black sagebrush

Ecological Site

Zapa: 024XY030NV
Pibler: 024XY030NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY057NV

407--Zapa-Enko association

Composition

Major Components

Zapa very gravelly silt loam, 8 to 30 percent slopes--65 percent
Enko silt loam, 2 to 8 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic sandy loam--10 percent
Inclusion 2: Chiara silt loam, 2 to 8 percent slopes--3 percent
Inclusion 3: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic sandy loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Zapa--Landform: Fan remnants; geomorphic position: summit
Enko--Landform: Inset fans
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; aspect: south
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex; aspect: south

Major Component Description

Zapa Series

Elevation: 5,700 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series

Elevation: 5,700 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Zapa: Indian ricegrass, black sagebrush, bluegrass
Enko: Indian ricegrass, Wyoming big sagebrush, bluegrass
Inclusion 1: Indian ricegrass, bluegrass, shadscale
Inclusion 2: Indian ricegrass, Wyoming big sagebrush
Inclusion 3: Indian ricegrass, bud sagebrush, shadscale

Ecological Site

Zapa: 028BY011NV
Enko: 028BY010NV
Inclusion 1: 028BY019NV
Inclusion 2: 028BY010NV
Inclusion 3: 028BY017NV

410--Coser-McIvey-Cleavage association

Composition

Major Components

Coser gravelly clay loam, 4 to 15 percent slopes--40 percent
McIvey gravelly loam, 4 to 15 percent slopes--30 percent
Cleavage extremely gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions
Inclusion 1: Duric Argixerolls, fine, montmorillonitic, frigid gravelly loam--10 percent
Inclusion 2: Argic Pachic Cryoborolls, fine, montmorillonitic very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 3: Tweener gravelly sandy loam, 15 to 30 percent slopes--2 percent

Map Unit Setting
Landscape position: Hills and intermontane basins
Coser--Landform: Hills; geomorphic position: summit; shape of slope: concave
McIvey--Landform: Hills; geomorphic position: summit; shape of slope: concave; aspect: north
Cleavage--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Pediments; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: summit; shape of slope: convex

Major Component Description
Coser Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

McIvey Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks

Cleavage Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
McIvey: Antelope bitterbrush, bluebunch wheatgrass
Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Inclusion 1: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 2: Mountain big sagebrush, mountain brome, snowberry
Inclusion 3: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass

Ecological Site
Coser: 025XY017NV
McIvey: 025XY012NV
Cleavage: 025XY024NV
Inclusion 1: 025XY017NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY007NV

411--Coser-Coser, moderately steep-McIvey association

Composition
Major Components
Coser gravelly clay loam, 4 to 15 percent slopes--40 percent
Coser gravelly clay loam, 15 to 30 percent slopes--30 percent
McIvey gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Argic Pachic Cryoborolls, fine, montmorillonitic very gravelly loam, 15 to 30 percent slopes--10 percent
Inclusion 2: Argic Pachic Cryoborolls, clayey-skeletal, montmorillonitic very gravelly loam--2 percent
Inclusion 3: Duric Argixerolls, fine, montmorillonitic, frigid gravelly loam--2 percent
Inclusion 4: Durargidic Argixerolls, clayey-skeletal, montmorillonitic, frigid gravelly loam--1 percent

Map Unit Setting
Landscape position: Hills and intermontane basins

Coser--Landform: Pediments; geomorphic position: summit; position on slope: upper; shape of slope: plane
Coser--Landform: Pediments; geomorphic position: backslope; shape of slope: plane
McIvey--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Pediments; geomorphic position: summit; shape of slope: convex
Inclusion 4--Landform: Pediments; geomorphic position: summit; shape of slope: concave

Major Component Description

Coser Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Coser Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

McIvey Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks

Dominant Present Vegetation

Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
McIvey: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Mountain big sagebrush, mountain brome, snowberry
Inclusion 2: Mountain big sagebrush, mountain brome, snowberry
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 4: Idaho fescue

Ecological Site

Coser: 025XY017NV
Coser: 025XY017NV
McIvey: 025XY012NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY017NV
Inclusion 4: 025XY027NV

412--Coser-Coser, moderately steep-Lerrow association

Composition

Major Components
Coser gravelly clay loam, 4 to 15 percent slopes--35 percent
Coser gravelly clay loam, 15 to 50 percent slopes--30 percent
Lerrow gravelly loam, 30 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Pachic Argixerolls, fine-loamy, mixed, frigid gravelly silt loam--10 percent
Inclusion 2: Pachic Argixerolls, fine-loamy, mixed, frigid gravelly silt loam--2 percent
Inclusion 3: Quopant very gravelly sandy loam, 15 to 30 percent slopes--2 percent
Inclusion 4: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid, shallow very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Coser--Landform: Hills; geomorphic position: summit
Coser--Landform: Hills; geomorphic position: backslope; shape of slope: plane

Lerrow--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Coser Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Coser Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Lerrow Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Lerrow: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush

Ecological Site

Coser: 025XY017NV
Coser: 025XY017NV
Lerrow: 025XY009NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY027NV
Inclusion 3: 024XY031NV
Inclusion 4: 025XY024NV

414--Coser-Forvic-Scalfar association

Composition

Major Components
Coser gravelly clay loam, 15 to 30 percent slopes--50 percent
Forvic gravelly silty clay loam, 4 to 15 percent slopes--20 percent
Scalfar very gravelly loam, gravelly substratum, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Pachic Haploxerolls, fine-loamy, mixed, frigid gravelly silt loam--5 percent
Inclusion 2: Durargidic Argixerolls, fine, montmorillonitic, frigid gravelly loam--5 percent
Inclusion 3: Lerrow gravelly loam, 15 to 30 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Coser--Landform: Pediments; geomorphic position: backslope
Forvic--Landform: Pediments; geomorphic position: summit
Scalfar--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Pediments; geomorphic position: summit; position on slope: lower
Inclusion 3--Landform: Pediments; geomorphic position: backslope; aspect: south

Major Component Description

Coser Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Forvic Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 15 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly silty clay loam
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from tuffaceous rocks

Scalfar Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Forvic: Basin big sagebrush, bluebunch wheatgrass
Scalfar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass

Ecological Site

Coser: 025XY017NV
Forvic: 025XY027NV
Scalfar: 025XY057NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY009NV

415--Coser-Cleavage-Pequop association

Composition

Major Components
Coser gravelly clay loam, 15 to 50 percent slopes--40 percent
Cleavage very gravelly loam, 4 to 15 percent slopes--25 percent
Pequop gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Hapgood very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Quarz very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--3 percent
Inclusion 4: Quopant very gravelly sandy loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Coser--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Cleavage--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Pequop--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Coser Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Cleavage Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches

Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Pequop Series
Elevation: 6,000 to 6,600 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Pequop: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Ecological Site

Coser: 025XY017NV
Cleavage: 025XY017NV
Pequop: 025XY012NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY057NV
Inclusion 4: 024XY031NV

417--Coser-Fez-Quopant association

Composition

Major Components
Coser gravelly clay loam, 15 to 50 percent slopes--30 percent
Fez loamy sand, 15 to 30 percent slopes--30 percent
Quopant very gravelly sandy loam, 15 to 50 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Loncan very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Pachic Haploxerolls, fine-loamy, mixed, frigid gravelly silt loam--5 percent
Inclusion 3: Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--3 percent
Inclusion 4: Lithic Argixerolls, clayey, montmorillonitic, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills
Coser--Landform: Hills; geomorphic position: backslope; position on slope: lower
Fez--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Quopant--Landform: Hills; geomorphic position: backslope; position on slope: upper
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Major Component Description

Coser Series
Elevation: 6,200 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Fez Series
Elevation: 6,200 to 7,500 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface layer texture: Loamy sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Quopant Series
Elevation: 6,200 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Fez: Idaho fescue, antelope bitterbrush
Quopant: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, antelope bitterbrush
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Idaho fescue, bluebunch wheatgrass, serviceberry

Ecological Site

Coser: 025XY017NV
Fez: 025XY004NV
Quopant: 024XY031NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY057NV
Inclusion 4: 025XY046NV

418--Rodie-Rubble land-Sumine association

Composition

Major Components
Rodie very gravelly loam, 30 to 75 percent slopes--30 percent
Rubble land fragmental material, 30 to 75 percent slopes--30 percent
Sumine very gravelly loam, 30 to 75 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--6 percent
Inclusion 2: Xerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--5 percent
Inclusion 3: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic sandy loam--3 percent
Inclusion 4: Welch loam, drained, 2 to 4 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Rodie--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Rubble land--Landform: Hills; geomorphic position: backslope
Sumine--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 4--Landform: Drainageways

Major Component Description

Rodie Series
Elevation: 6,500 to 7,500 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Rubble land Miscellaneous Area
Elevation: 6,500 to 7,500 feet
Surface layer texture: Fragmental material
Drainage class: Excessively drained

Sumine Series
Elevation: 6,500 to 7,500 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Rodie: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Rubble land: None
Sumine: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 4: Nevada bluegrass, basin big sagebrush, basin wildrye

Ecological Site

Rodie: 025XY055NV
Sumine: 025XY009NV
Rubble land: None
Inclusion 1: 025XY009NV
Inclusion 2: 025XY015NV
Inclusion 3: 024XY030NV
Inclusion 4: 025XY003NV

419--Rodie-Shalcleav-Pequop association

Composition

Major Components

Rodie very gravelly loam, 30 to 75 percent slopes--40 percent
Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--30 percent
Pequop gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--7 percent
Inclusion 2: Shalcleav very gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Hapgood very gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Quarz very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Rodie--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Shalcleav--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Pequop--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope
Inclusion 2--Landform: Mountains; geomorphic position: summit
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; aspect: south

Major Component Description

Rodie Series

Elevation: 6,200 to 8,200 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Shalcleav Series

Elevation: 6,700 to 8,200 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Pequop Series

Elevation: 6,200 to 8,200 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Rodie: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Pequop: Antelope bitterbrush, bluebunch wheatgrass

Inclusion 1: None
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Mountain brome, snowberry
Inclusion 4: Antelope bitterbrush, bluebunch wheatgrass

Ecological Site

Rodie: 025XY055NV
Shalcleav: 025XY057NV
Pequop: 025XY012NV
Inclusion 1: none
Inclusion 2: 025XY057NV
Inclusion 3: 025XY004NV
Inclusion 4: 025XY009NV

420--Rodie-Shalcleav-Agassiz association

Composition

Major Components

Rodie very gravelly loam, 15 to 50 percent slopes--40 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--30 percent
Agassiz very gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hapgood gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Tweener very gravelly sandy loam, 15 to 50 percent slopes--5 percent
Inclusion 3: McIvey gravelly silt loam, 4 to 15 percent slopes--5 percent

Map Unit Setting

Landscape position: Mountains
Rodie--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Agassiz--Landform: Mountains; geomorphic position: backslope
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: plane

Major Component Description

Rodie Series

Elevation: 6,500 to 7,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Shalcleav Series

Elevation: 6,500 to 7,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Agassiz Series

Elevation: 6,500 to 7,800 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 65 days
Surface rock fragments: 10 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Dominant Present Vegetation

Rodie: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Agassiz: Thurber needlegrass, bluebunch wheatgrass, curlleaf mountainmahogany
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass

Ecological Site

Rodie: 025XY055NV

Shalcleav: 025XY057NV
Agassiz: 028BY042NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY007NV
Inclusion 3: 025XY012NV

421--Rodie-Shalcleav-Keman association

Composition

Major Components

Rodie very gravelly loam, 15 to 50 percent slopes--40 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--25 percent
Keman gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Tweener very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Argic Cryoborolls, loamy-skeletal, mixed very gravelly loam, 8 to 30 percent slopes--5 percent
Inclusion 3: Graley very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--2 percent

Map Unit Setting

Landscape position: Mountains
Rodie--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Keman--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Mountains; position on slope: lower; shape of slope: convex
Inclusion 4--Landform: Drainageways

Major Component Description

Rodie Series

Elevation: 6,000 to 6,700 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Shalcleav Series

Elevation: 6,000 to 6,700 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Keman Series

Elevation: 6,000 to 6,700 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 50 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Rodie: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Keman: Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue, snowberry, snowbrush ceanothus
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 4: Nevada bluegrass, basin big sagebrush, basin wildrye

Ecological Site

Rodie: 025XY055NV
Shalcleav: 025XY057NV
Keman: 025XY056NV
Inclusion 1: 025XY007NV
Inclusion 2: 025XY052NV
Inclusion 3: 025XY012NV
Inclusion 4: 025XY003NV

422--Rodie-Quarz-Shalcleav association

Composition

Major Components

Rodie very gravelly loam, 15 to 50 percent slopes--45 percent

Quarz very gravelly loam, 15 to 50 percent slopes--20 percent

Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Durargidic Argixerolls, loamy-skeletal, mixed, frigid gravelly loam--10 percent

Inclusion 2: Shalper very gravelly loam, 15 to 50 percent slopes--2 percent

Inclusion 3: Typic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent

Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills

Rodie--Landform: Hills; geomorphic position: backslope; aspect: north

Quarz--Landform: Hills; geomorphic position: backslope; aspect: south

Shalcleav--Landform: Hills; geomorphic position: summit

Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower

Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: north

Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Rodie Series

Elevation: 5,500 to 6,800 feet

Precipitation: About 13 inches

Air temperature: About 44 degrees

Frost-free season: About 85 days

Surface rock fragments: 5 percent cobbles; 55 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Quarz Series

Elevation: 5,500 to 6,800 feet

Precipitation: About 12 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 45 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series

Elevation: 5,500 to 6,800 feet

Precipitation: About 16 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 60 percent gravel

Surface layer texture: Extremely gravelly silt loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Rodie: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Quarz: Antelope bitterbrush, bluebunch wheatgrass

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass

Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass

Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Inclusion 4: None

Ecological Site

Rodie: 025XY055NV

Quarz: 025XY009NV

Shalcleav: 025XY057NV

Inclusion 1: 025XY021NV

Inclusion 2: 025XY021NV

Inclusion 3: 025XY012NV

Inclusion 4: none

423--Quopant-Coser-Lerrow association

Composition

Major Components

Quopant very gravelly sandy loam, 30 to 50 percent slopes--35 percent

Coser gravelly clay loam, 30 to 50 percent slopes--30 percent

Lerrow gravelly loam, 30 to 50 percent slopes--20

percent
Contrasting Inclusions
Inclusion 1: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow gravelly silt loam--5 percent
Inclusion 2: Hapgood very gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 3: Aridic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent

Map Unit Setting
Landscape position: Hills
Quopant--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Coser--Landform: Hills; geomorphic position: summit; position on slope: upper
Lerrow--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north

Major Component Description
Quopant Series
Elevation: 6,200 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Coser Series
Elevation: 6,200 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Lerrow Series
Elevation: 6,200 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation
Quopant: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Lerrow: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Idaho fescue, mountain brome, snowberry
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Ecological Site
Quopant: 024XY031NV
Coser: 025XY017NV
Lerrow: 025XY009NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY055NV

430--Ocala-Kelk association

Composition
Major Components
Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--50 percent
Kelk silt loam, 0 to 2 percent slopes, rarely flooded--40 percent
Contrasting Inclusions
Inclusion 1: Welch silt loam, 0 to 2 percent slopes, frequently flooded--5 percent
Inclusion 2: Sonoma silt loam, strongly saline-alkali, 0 to 2 percent slopes, rarely flooded--5 percent

Map Unit Setting
Landscape position: Fan piedmonts
Ocala--Landform: Inset fans
Kelk--Landform: Fan skirts
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Inset fans

Major Component Description
Ocala Series
Elevation: 5,500 to 5,600 feet

Precipitation: About 7 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series
Elevation: 5,500 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Ocala: Basin wildrye, inland saltgrass, rubber rabbitbrush
Kelk: Basin big sagebrush, inland saltgrass, rubber rabbitbrush
Inclusion 1: Willow
Inclusion 2: Basin wildrye, black greasewood, inland saltgrass

Ecological Site

Ocala: 024XY007NV
Kelk: 024XY006NV
Inclusion 1: 025XY005NV
Inclusion 2: 024XY007NV

431--Ocala-Batan-Devilsgait association

Composition

Major Components
Ocala silt loam, occasionally flooded, 0 to 2 percent slopes--40 percent
Batan silt loam, 2 to 4 percent slopes--30 percent
Devilsgait silt loam, drained, 0 to 2 percent slopes, occasionally flooded--15 percent
Contrasting Inclusions
Inclusion 1: Xerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--6 percent
Inclusion 2: Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--6 percent
Inclusion 3: Ocala silt loam, strongly saline-alkali, 0 to 2 percent slopes, occasionally flooded--2 percent
Inclusion 4: Xeric Torriorthents, fine-loamy, mixed (calcareous), mesic--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Ocala--Landform: Stream terraces
Batan--Landform: Stream terraces
Devilsgait--Landform: Flood plains
Inclusion 1--Landform: Fan remnants
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains; shape of slope: concave
Inclusion 4--Landform: Stream terraces

Major Component Description

Ocala Series
Elevation: 5,400 to 6,000 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Batan Series
Elevation: 5,400 to 6,000 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Devilsgait Series
Elevation: 5,400 to 6,000 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Ocala: Basin wildrye, black greasewood, inland saltgrass, rubber rabbitbrush
Batan: Basin big sagebrush, basin wildrye, black greasewood, inland saltgrass
Devilsgait: Basin big sagebrush, basin wildrye, rubber rabbitbrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Creeping wildrye, willow

Inclusion 3: Basin wildrye, black greasewood
Inclusion 4: Indian ricegrass

Ecological Site

Ocala: 024XY007NV
Batan: 024XY022NV
Devilsgait: 025XY003NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY001NV
Inclusion 3: 024XY008NV
Inclusion 4: 024XY012NV

432--Ocala-Ixian association

Composition

Major Components

Ocala silty clay loam, 0 to 2 percent slopes, rarely flooded--70 percent
Ixian silty clay loam, 0 to 2 percent slopes, rarely flooded--20 percent

Contrasting Inclusions

Inclusion 1: Sondoa silt loam, 0 to 2 percent slopes, rarely flooded--10 percent

Map Unit Setting

Landscape position: Bolsons
Ocala--Landform: Lake plains; shape of slope: concave
Ixian--Landform: Lake plains
Inclusion 1--Landform: Lake plains

Major Component Description

Ocala Series

Elevation: 4,700 to 5,000 feet
Precipitation: About 7 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silty clay loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Ixian Series

Elevation: 4,700 to 5,000 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silty clay loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Dominant Present Vegetation

Ocala: Basin wildrye, black greasewood, inland saltgrass
Ixian: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 1: Alkali sacaton, black greasewood

Ecological Site

Ocala: 028BY004NV
Ixian: 028BY020NV
Inclusion 1: 028BY020NV

462--Graley-Chen-Arcia association

Composition

Major Components

Graley extremely gravelly loam, 15 to 50 percent slopes--45 percent
Chen very gravelly loam, 15 to 30 percent slopes--25 percent
Arcia silt loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--5 percent
Inclusion 2: Quarz cobbly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Loncan very gravelly loam, 15 to 30 percent slopes--4 percent
Inclusion 4: Crooked Creek silty clay loam, 0 to 4 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Graley--Landform: Hills; geomorphic position: summit
Chen--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Arcia--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Drainageways

Major Component Description

Graley Series
Elevation: 6,300 to 7,000 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Chen Series
Elevation: 6,300 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Arcia Series
Elevation: 6,300 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Dominant Present Vegetation

Graley: Antelope bitterbrush, bluebunch wheatgrass
Chen: Idaho fescue, bluebunch wheatgrass, low sagebrush
Arcia: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: None
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 4: Nevada bluegrass, basin wildrye

Ecological Site

Graley: 025XY007NV
Chen: 025XY017NV
Arcia: 025XY012NV
Inclusion 1: none
Inclusion 2: 025XY009NV
Inclusion 3: 025XY012NV
Inclusion 4: 025XY003NV

470--Chen-Graley-Rock outcrop association

Composition

Major Components
Chen very gravelly loam, 15 to 30 percent slopes--40 percent
Graley extremely gravelly loam, 15 to 50 percent slopes--30 percent
Rock outcrop--15 percent
Contrasting Inclusions
Inclusion 1: Cleavage extremely gravelly loam, 15 to 50 percent slopes--6 percent
Inclusion 2: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--4 percent
Inclusion 3: Lithic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent
Inclusion 4: Lithic Calcixerolls, loamy-skeletal, carbonatic, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Mountains
Chen--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Graley--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Rock outcrop--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: summit; position on slope: upper
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 4--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex

Major Component Description

Chen Series
Elevation: 6,200 to 7,800 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Graley Series
Elevation: 6,200 to 7,800 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Rock outcrop Miscellaneous Area
Elevation: 6,200 to 7,800 feet

Dominant Present Vegetation

Chen: Idaho fescue, antelope bitterbrush, low sagebrush
Graley: Antelope bitterbrush, bluebunch wheatgrass
Rock outcrop: None
Inclusion 1: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Thurber needlegrass, bluebunch wheatgrass, curlleaf mountainmahogany

Ecological Site

Chen: 025XY017NV
Graley: 025XY007NV
Rock outcrop: None
Inclusion 1: 025XY024NV
Inclusion 2: 025XY009NV
Inclusion 3: 024XY031NV
Inclusion 4: 028BY042NV

472--Chen-Coser association

Composition

Major Components
Chen very gravelly loam, 4 to 15 percent slopes--45 percent
Coser gravelly clay loam, 4 to 15 percent slopes--40 percent
Contrasting Inclusions
Inclusion 1: Pachic Argixerolls, fine, montmorillonitic, frigid gravelly silt loam--3 percent
Inclusion 2: Crooked Creek silty clay, 2 to 4 percent slopes, occasionally flooded--2 percent
Inclusion 3: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam, 4 to 15 percent slopes--10 percent

Map Unit Setting

Landscape position: Hills
Chen--Landform: Hills; geomorphic position: summit; shape of slope: convex
Coser--Landform: Hills; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Chen Series
Elevation: 6,300 to 6,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Coser Series
Elevation: 6,300 to 6,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Chen: Idaho fescue, Sandberg bluegrass, low sagebrush
Coser: Idaho fescue, Sandberg bluegrass, low sagebrush
Inclusion 1: Idaho fescue, bluebunch wheatgrass, serviceberry
Inclusion 2: Nevada bluegrass, alpine timothy, willow
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush

Ecological Site

Chen: 025XY017NV
Coser: 025XY017NV
Inclusion 1: 025XY046NV
Inclusion 2: 025XY006NV
Inclusion 3: 025XY017NV

473--Chen-Shalper-Shalcleav association

Composition

Major Components

Chen extremely cobbly loam, 15 to 50 percent slopes--40 percent
Shalper very gravelly loam, 8 to 30 percent slopes--30 percent
Shalcleav extremely gravelly silt loam, 8 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--9 percent
Inclusion 2: Pachic Argixerolls, loamy-skeletal, mixed, frigid gravelly silt loam--2 percent
Inclusion 3: Arcia gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Hills
Chen--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Shalcleav--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Chen Series

Elevation: 5,800 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent cobbles; 30 percent gravel
Surface layer texture: Extremely cobbly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalper Series

Elevation: 5,800 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series

Elevation: 5,800 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Chen: Idaho fescue, bluebunch wheatgrass, low sagebrush
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 4: None

Ecological Site

Chen: 025XY017NV
Shalper: 025XY021NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY060NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY012NV
Inclusion 4: none

474--Chen-Shalcleav-Vitale association

Composition

Major Components

Chen very gravelly loam, 15 to 50 percent slopes--50 percent

Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--20 percent

Vitale very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Sumine very gravelly loam, 30 to 50 percent slopes--10 percent

Inclusion 2: Kram very gravelly loam, 15 to 50 percent slopes--3 percent

Inclusion 3: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Mountains

Chen--Landform: Mountains; geomorphic position: backslope

Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex

Vitale--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south

Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: convex

Inclusion 3--Landform: Mountains; geomorphic position: summit

Major Component Description

Chen Series

Elevation: 5,800 to 6,900 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series

Elevation: 5,800 to 6,900 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 60 percent gravel

Surface layer texture: Extremely gravelly silt loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Vitale Series

Elevation: 5,800 to 6,900 feet

Precipitation: About 14 inches

Air temperature: About 43 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 40 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Chen: Idaho fescue, bluebunch wheatgrass, low sagebrush

Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Vitale: Antelope bitterbrush, bluebunch wheatgrass

Inclusion 1: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Inclusion 2: Utah juniper, black sagebrush

Inclusion 3: None

Ecological Site

Chen: 025XY017NV

Shalcleav: 025XY057NV

Vitale: 025XY012NV

Inclusion 1: 025XY009NV

Inclusion 2: 025XY060NV

Inclusion 3: none

480--Devilsgait-Kelk association

Composition

Major Components

Devilsgait silt loam, drained, 0 to 2 percent slopes, rarely flooded--60 percent

Kelk silt loam, 2 to 4 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic gravelly silt loam, drained, 0 to 2 percent slopes--5 percent

Inclusion 2: Enko sandy loam, 2 to 4 percent slopes--8 percent
Inclusion 3: Aridic Duric Haploxerolls, coarse-loamy, mixed, mesic very gravelly loam--2 percent

Map Unit Setting

Landscape position: Intermontane basins
Devilsgait--Landform: Flood plains
Kelk--Landform: Stream terraces
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Fan aprons
Inclusion 3--Landform: Fan skirts; position on slope: upper

Major Component Description

Devilsgait Series
Elevation: 5,700 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series
Elevation: 5,700 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Devilsgait: Basin big sagebrush, basin wildrye
Kelk: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Nevada bluegrass, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, big sagebrush, bluebunch wheatgrass

Ecological Site

Devilsgait: 025XY003NV
Kelk: 025XY019NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY014NV

481--Devilsgait-Batan-Devilsgait, drained association

Composition

Major Components
Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--50 percent
Batan silt loam, 2 to 4 percent slopes--20 percent
Devilsgait silt loam, drained, 0 to 2 percent slopes, rarely flooded--15 percent
Contrasting Inclusions
Inclusion 1: Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--10 percent
Inclusion 2: Ocala silt loam, drained, 0 to 2 percent slopes--3 percent
Inclusion 3: Kelk silt loam, 0 to 2 percent slopes, rarely flooded--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Devilsgait--Landform: Flood plains
Batan--Landform: Fan skirts
Devilsgait--Landform: Flood plains
Inclusion 1--Landform: Fan aprons
Inclusion 2--Landform: Fan aprons
Inclusion 3--Landform: Inset fans

Major Component Description

Devilsgait Series
Elevation: 5,300 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Batan Series
Elevation: 5,300 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Devilsgait Series
Elevation: 5,300 to 5,600 feet
Precipitation: About 8 inches

Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Devilsgait: Basin wildrye, creeping wildrye, willow
Batan: Basin wildrye, big sagebrush, black greasewood
Devilsgait: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 1: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 2: Basin wildrye, black greasewood
Inclusion 3: Basin big sagebrush, basin wildrye, black greasewood

Ecological Site

Devilsgait: 025XY001NV
Batan: 024XY022NV
Devilsgait: 025XY003NV
Inclusion 1: 024XY007NV
Inclusion 2: 024XY008NV
Inclusion 3: 024XY006NV

482--Devilsgait silt loam, frequently flooded, 0 to 2 percent slopes

Composition

Major Components
Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--85 percent
Contrasting Inclusions
Inclusion 1: Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--8 percent
Inclusion 2: Batan silt loam, 0 to 4 percent slopes--6 percent
Inclusion 3: Ocala silt loam, drained, 0 to 2 percent slopes--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Devilsgait--Landform: Flood plains
Inclusion 1--Landform: Fan aprons
Inclusion 2--Landform: Fan aprons; position on slope: upper
Inclusion 3--Landform: Alluvial flats

Major Component Description

Devilsgait Series
Elevation: 5,300 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Devilsgait: Basin wildrye, creeping wildrye, willow
Inclusion 1: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 2: Basin wildrye, big sagebrush, black greasewood
Inclusion 3: Basin wildrye, black greasewood

Ecological Site

Devilsgait: 025XY001NV
Inclusion 1: 024XY007NV
Inclusion 2: 024XY022NV
Inclusion 3: 024XY008NV

483--Devilsgait-Valmy association

Composition

Major Components
Devilsgait silt loam, 0 to 2 percent slopes, frequently flooded--50 percent
Valmy fine sandy loam, 2 to 4 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--9 percent
Inclusion 2: Sonoma silty clay loam, 0 to 2 percent slopes, frequently flooded--5 percent
Inclusion 3: Sonoma silt loam, 0 to 2 percent slopes, occasionally flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Devilsgait--Landform: Flood plains
Valmy--Landform: Stream terraces
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Flood plains
Inclusion 3--Landform: Flood plains

Major Component Description

Devilsgait Series
Elevation: 5,400 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam

Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Valmy Series
Elevation: 5,500 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 50 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Devilsgait: Basin wildrye, creeping wildrye, willow
Valmy: Basin wildrye, big sagebrush, black greasewood, inland saltgrass
Inclusion 1: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 2: Baltic rush, alkali bluegrass, alkali muhly
Inclusion 3: Basin big sagebrush, basin wildrye, black greasewood

Ecological Site

Devilsgait: 025XY001NV
Valmy: 024XY022NV
Inclusion 1: 024XY007NV
Inclusion 2: 024XY009NV
Inclusion 3: 024XY006NV

490--Loncan-Sumine association

Composition

Major Components
Loncan very gravelly loam, 15 to 50 percent slopes--55 percent
Sumine very gravelly loam, 30 to 50 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), frigid gravelly silt loam--6 percent
Inclusion 2: Cleavage very gravelly loam, 8 to 30 percent slopes--2 percent
Inclusion 3: Cumulic Haploxerolls, loamy-skeletal, mixed, frigid silt loam--2 percent

Map Unit Setting

Landscape position: Mountains
Loncan--Landform: Mountains; geomorphic position: summit
Sumine--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower

Major Component Description

Loncan Series
Elevation: 6,000 to 6,700 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Sumine Series
Elevation: 6,000 to 6,700 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Loncan: Idaho fescue, mountain big sagebrush, snowberry
Sumine: Basin wildrye, bluebunch wheatgrass
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Loncan: 025XY012NV
Sumine: 025XY009NV
Inclusion 1: 025XY021NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY012NV

520--Halleck silt loam, frequently flooded, 0 to 2 percent slopes

Composition

Major Components

Halleck silt loam, 0 to 2 percent slopes--85 percent

Contrasting Inclusions

Inclusion 1: Sonoma silt loam, 0 to 2 percent slopes, frequently flooded--8 percent

Inclusion 2: Crooked Creek silt loam, 0 to 2 percent slopes, frequently flooded--4 percent

Inclusion 3: Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--2 percent

Inclusion 4: Halleck silt loam, 0 to 2 percent slopes, occasionally flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins

Halleck--Landform: Flood plains

Inclusion 1--Landform: Flood plains

Inclusion 2--Landform: Flood plains

Inclusion 3--Landform: Fan aprons

Inclusion 4--Landform: Flood plains

Major Component Description

Halleck Series

Elevation: 5,500 to 5,700 feet

Precipitation: About 11 inches

Air temperature: About 43 degrees

Frost-free season: About 90 days

Surface layer texture: Silt loam

Drainage class: Poorly drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Halleck: Nevada bluegrass, basin big sagebrush, basin wildrye

Inclusion 1: Creeping wildrye, willow

Inclusion 2: Nevada bluegrass, willow

Inclusion 3: Basin wildrye, black greasewood, inland saltgrass

Inclusion 4: Nevada bluegrass, alpine timothy, willow

Ecological Site

Halleck: 025XY005NV

Inclusion 1: 025XY001NV

Inclusion 2: 025XY005NV

Inclusion 3: 024XY007NV

Inclusion 4: 025XY006NV

521--Halleck, gravelly substratum-Halleck association

Composition

Major Components

Halleck silt loam, gravelly substratum, 0 to 2 percent slopes, 0 to 2 percent slopes--45 percent

Halleck silt loam, drained, 0 to 2 percent slopes, rarely flooded--40 percent

Contrasting Inclusions

Inclusion 1: Crooked Creek, 0 to 2 percent slopes, rarely flooded--5 percent

Inclusion 2: Halleck silt loam, drained, 0 to 2 percent slopes, occasionally flooded--5 percent

Inclusion 3: Kelk silt loam, 0 to 2 percent slopes, rarely flooded--4 percent

Inclusion 4: Halleck silt loam, 0 to 2 percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins

Halleck--Landform: Flood plains

Halleck--Landform: Flood plains

Inclusion 1--Landform: Flood plains

Inclusion 2--Landform: Flood plains

Inclusion 3--Landform: Fan skirts

Inclusion 4--Landform: Flood plains

Major Component Description

Halleck Series

Elevation: 5,500 to 5,700 feet

Precipitation: About 11 inches

Air temperature: About 43 degrees

Frost-free season: About 90 days

Surface layer texture: Silt loam

Drainage class: Poorly drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Halleck Series

Elevation: 5,500 to 5,700 feet

Precipitation: About 11 inches

Air temperature: About 43 degrees

Frost-free season: About 90 days

Surface layer texture: Silt loam

Drainage class: Poorly drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Halleck: Nevada bluegrass, basin big sagebrush,

basin wildrye
Halleck: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 1: Nevada bluegrass, basin wildrye
Inclusion 2: Nevada bluegrass, alpine timothy, willow
Inclusion 3: Basin big sagebrush, basin wildrye, black greasewood
Inclusion 4: Nevada bluegrass, tufted hairgrass, willow

Ecological Site

Halleck: 025XY003NV
Halleck: 025XY003NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY006NV
Inclusion 3: 024XY006NV
Inclusion 4: 025XY005NV

530--Ekim-Gollaher-Loncan association

Composition

Major Components

Ekim very gravelly loam, 15 to 50 percent slopes--50 percent
Gollaher very gravelly loam, 15 to 50 percent slopes--20 percent
Loncan very gravelly loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Amene very gravelly loam, 15 to 50 percent slopes--6 percent
Inclusion 2: Hackwood gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Wiffo Variant stony loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Snotown very gravelly coarse sandy loam, 30 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Ekim--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south
Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper
Loncan--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Ekim Series

Elevation: 6,400 to 7,000 feet
Precipitation: About 13 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Gollaher Series

Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Loncan Series

Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Ekim: Antelope bitterbrush, bluebunch wheatgrass
Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Loncan: Idaho fescue, mountain big sagebrush
Inclusion 1: Serviceberry, snowberry
Inclusion 2: Mountain brome, quaking aspen
Inclusion 3: Quaking aspen
Inclusion 4: Letterman needlegrass

Ecological Site

Ekim: 025XY009NV

Gollaher: 025XY057NV
Loncan: 025XY012NV
Inclusion 1: 025XY046NV
Inclusion 2: 025XY065NV
Inclusion 3: 025XY002NV
Inclusion 4: 025XY028NV

540--Sumine-Hapgood-Gollaher association

Composition

Major Components

Sumine very gravelly loam, 15 to 50 percent slopes--40 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--30 percent
Gollaher very gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Bullump gravelly loam, 15 to 30 percent slopes--10 percent
Inclusion 2: Tusel gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Cleavage very gravelly loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Sumine--Landform: Mountains; geomorphic position: backslope; aspect: south
Hapgood--Landform: Mountains; geomorphic position: backslope; aspect: north
Gollaher--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; aspect: south
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: summit

Major Component Description

Sumine Series

Elevation: 6,700 to 7,700 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Hapgood Series

Elevation: 6,700 to 7,700 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Gollaher Series

Elevation: 6,700 to 7,700 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Sumine: Antelope bitterbrush, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Mountain brome
Inclusion 2: Idaho fescue, mountain big sagebrush
Inclusion 3: Idaho fescue, low sagebrush

Ecological Site

Sumine: 025XY009NV
Hapgood: 025XY004NV
Gollaher: 025XY057NV
Inclusion 1: 025XY016NV
Inclusion 2: 025XY010NV
Inclusion 3: 025XY017NV

541--Sumine-Cleavage-Bullump association

Composition

Major Components

Sumine very gravelly loam, 30 to 50 percent slopes--40 percent
Cleavage extremely gravelly loam, 15 to 50 percent slopes--30 percent

Bullump very gravelly loam, 30 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--7 percent
Inclusion 2: Wiffo Variant stony loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Snotown very gravelly coarse sandy loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Mountains
Sumine--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: plane; aspect: south
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Bullump--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Drainageways

Major Component Description

Sumine Series

Elevation: 6,800 to 8,600 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Cleavage Series

Elevation: 6,800 to 8,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Bullump Series

Elevation: 6,800 to 8,600 feet
Precipitation: About 15 inches
Air temperature: About 43 degrees
Frost-free season: About 80 days
Surface rock fragments: 5 percent cobbles; 20 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks

Dominant Present Vegetation

Sumine: Antelope bitterbrush, bluebunch wheatgrass
Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Bullump: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Quaking aspen
Inclusion 3: Letterman needlegrass
Inclusion 4: Basin big sagebrush, basin wildrye

Ecological Site

Sumine: 025XY009NV
Cleavage: 025XY024NV
Bullump: 025XY016NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY002NV
Inclusion 3: 025XY028NV
Inclusion 4: 025XY003NV

542--Sumine-Cleavage-Hackwood association

Composition

Major Components

Sumine very gravelly loam, 30 to 50 percent slopes--40 percent
Cleavage extremely gravelly loam, 15 to 50 percent slopes--30 percent
Hackwood gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hapgood gravelly loam, 30 to 50

percent slopes--5 percent
Inclusion 2: Bullump very gravelly loam, 30 to 50 percent slopes--3 percent
Inclusion 3: Entic Cryumbrepts, loamy-skeletal, mixed, 30 to 50 percent slopes--5 percent
Inclusion 4: Snotown very gravelly coarse sandy loam, 30 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Sumine--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Hackwood--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Sumine Series
Elevation: 7,200 to 8,000 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Cleavage Series
Elevation: 7,200 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Hackwood Series
Elevation: 7,200 to 8,000 feet
Precipitation: About 18 inches
Air temperature: About 41 degrees
Frost-free season: About 70 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from quartzite

Dominant Present Vegetation

Sumine: Antelope bitterbrush, bluebunch wheatgrass
Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Hackwood: California brome, quaking aspen
Inclusion 1: Idaho fescue, mountain brome, snowberry
Inclusion 2: Mountain brome
Inclusion 3: Idaho fescue, antelope bitterbrush
Inclusion 4: Letterman needlegrass, tailcup lupine

Ecological Site

Sumine: 025XY009NV
Cleavage: 025XY024NV
Hackwood: 025XY065NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY016NV
Inclusion 3: 025XY007NV
Inclusion 4: 025XY028NV

543--Sumine-Pernty-Tusel association

Composition

Major Components
Sumine very gravelly loam, 30 to 50 percent slopes--35 percent
Pernty very stony loam, 30 to 50 percent slopes--30 percent
Tusel very gravelly fine sandy loam, 30 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Cleavage extremely gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Hapgood gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 3: Rock outcrop--5 percent

Map Unit Setting

Landscape position: Mountains
Sumine--Landform: Mountains; geomorphic position:

backslope; aspect: south
Pernty--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Tusel--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: summit

Major Component Description

Sumine Series
Elevation: 6,200 to 8,000 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Pernty Series
Elevation: 6,200 to 8,000 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Very stony loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Tusel Series
Elevation: 6,200 to 8,000 feet
Precipitation: About 17 inches
Air temperature: About 43 degrees
Frost-free season: About 65 days
Surface rock fragments: 35 percent cobbles; 15 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Sumine: Antelope bitterbrush, bluebunch wheatgrass
Pernty: Idaho fescue, bluebunch wheatgrass, serviceberry
Tusel: Idaho fescue, mountain brome, slender wheatgrass
Inclusion 1: Black sagebrush, low sagebrush
Inclusion 2: Snowberry
Inclusion 3: None

Ecological Site

Sumine: 025XY009NV
Pernty: 025XY046NV
Tusel: 025XY004NV
Inclusion 1: 025XY024NV
Inclusion 2: 025XY004NV
Inclusion 3: none

550--Bullump-Sumine-Hapgood association

Composition

Major Components
Bullump very stony loam, 15 to 50 percent slopes--45 percent
Sumine very gravelly loam, 15 to 50 percent slopes--25 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Rubble land--10 percent
Inclusion 2: Gollaher extremely gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Mountains
Bullump--Landform: Mountains; geomorphic position: backslope; position on slope: upper; aspect: south
Sumine--Landform: Mountains; geomorphic position: backslope; position on slope: lower; aspect: south
Hapgood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains
Inclusion 2--Landform: Mountains; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Mountains

Major Component Description

Bullump Series
Elevation: 6,600 to 8,500 feet

Precipitation: About 15 inches
Air temperature: About 43 degrees
Frost-free season: About 80 days
Surface rock fragments: 15 percent cobbles; 30 percent gravel
Surface layer texture: Very stony loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks

Sumine Series
Elevation: 6,600 to 8,500 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Hapgood Series
Elevation: 6,600 to 8,500 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Bullump: California brome, Idaho fescue, antelope bitterbrush, mountain big sagebrush
Sumine: Antelope bitterbrush, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: None
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: None

Ecological Site

Bullump: 025XY016NV
Sumine: 025XY009NV
Hapgood: 025XY004NV
Inclusion 1: none
Inclusion 2: 025XY057NV
Inclusion 3: none

560--Amene-Belsac-Onkeyo association

Composition

Major Components
Amene very gravelly silt loam, 15 to 50 percent slopes--35 percent
Belsac very gravelly loam, 15 to 50 percent slopes--25 percent
Onkeyo very gravelly silty clay loam, 15 to 50 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Hapgood gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Gollaher extremely gravelly loam, 8 to 15 percent slopes--5 percent
Inclusion 3: Typic Argixerolls gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Wiffo Variant stony loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Amene--Landform: Mountains; geomorphic position: summit; aspect: south
Belsac--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Onkeyo--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave

Major Component Description

Amene Series
Elevation: 6,700 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Belsac Series
Elevation: 6,700 to 7,600 feet
Precipitation: About 16 inches
Air temperature: About 41 degrees
Frost-free season: About 65 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Onkeyo Series
Elevation: 6,700 to 7,600 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Amene: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass, serviceberry
Belsac: California brome, Idaho fescue, serviceberry, snowberry
Onkeyo: Idaho fescue, bluebunch wheatgrass
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush
Inclusion 4: Idaho fescue, mountain big sagebrush, quaking aspen

Ecological Site

Amene: 025XY046NV
Belsac: 025XY004NV
Onkeyo: 025XY042NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY007NV
Inclusion 4: 025XY002NV

561--Amene-Ekim-Agassiz association

Composition

Major Components
Amene very gravelly silt loam, 30 to 50 percent slopes--50 percent
Ekim very gravelly loam, 30 to 50 percent slopes--20 percent
Agassiz very gravelly loam, 30 to 70 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Gollaher extremely gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 2: Belsac gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 3: Wiffo Variant stony loam, 30 to 50 percent slopes--4 percent
Inclusion 4: Hackwood gravelly loam, 15 to 50 percent slopes--4 percent

Map Unit Setting

Landscape position: Mountains
Amene--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Ekim--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south
Agassiz--Landform: Mountains; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Mountains; geomorphic position: summit; position on slope: upper
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Amene Series
Elevation: 7,000 to 8,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Ekim Series
Elevation: 7,000 to 8,800 feet
Precipitation: About 13 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Agassiz Series
Elevation: 7,000 to 8,800 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 65 days
Surface rock fragments: 10 percent cobbles; 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Dominant Present Vegetation

Amene: Sandberg bluegrass, Thurber needlegrass, bluebunch wheatgrass, serviceberry
Ekim: Bluebunch wheatgrass, bottlebrush squirreltail
Agassiz: Thurber needlegrass, bluebunch wheatgrass, curlleaf mountainmahogany
Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Mountain brome, slender wheatgrass
Inclusion 3: Quaking aspen
Inclusion 4: Mountain brome, quaking aspen

Ecological Site

Amene: 025XY046NV
Ekim: 025XY009NV
Agassiz: 028BY042NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY002NV
Inclusion 4: 025XY065NV

570--Tusel-Belsac Variant association

Composition

Major Components
Tusel very cobbly loam, 15 to 50 percent slopes--50 percent
Belsac Variant very stony silt loam, 15 to 50 percent slopes--40 percent
Contrasting Inclusions
Inclusion 1: Hapgood gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 2: Bullump gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Snotown coarse sandy loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Hackwood gravelly loam, 8 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Tusel--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: north
Belsac Variant--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Tusel Series
Elevation: 6,600 to 8,200 feet
Precipitation: About 17 inches
Air temperature: About 43 degrees
Frost-free season: About 65 days
Surface rock fragments: 35 percent cobbles; 15 percent gravel
Surface layer texture: Very cobbly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks, loess and volcanic ash

Belsac Variant
Elevation: 6,600 to 8,200 feet
Precipitation: About 17 inches
Air temperature: About 42 degrees
Frost-free season: About 65 days
Surface rock fragments: 1 percent cobbles
Surface layer texture: Very stony silt loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from sandstone

Dominant Present Vegetation

Tusel: Idaho fescue, snowberry
Belsac Variant: Quaking aspen, slender wheatgrass
Inclusion 1: Letterman needlegrass, snowberry
Inclusion 2: Basin wildrye, serviceberry
Inclusion 3: Letterman needlegrass
Inclusion 4: Mountain brome, quaking aspen

Ecological Site

Tusel: 025XY010NV
Belsac Variant: 025XY002NV
Inclusion 1: 025XY004NV

Inclusion 2: 025XY016NV
Inclusion 3: 025XY028NV
Inclusion 4: 025XY065NV

580--Kelk-Sonoma association

Composition

Major Components
Kelk silt loam, 0 to 2 percent slopes--70 percent
Sonoma silt loam, drained, 0 to 2 percent slopes, rarely flooded--20 percent
Contrasting Inclusions
Inclusion 1: Kelk silt loam, 0 to 2 percent slopes, rarely flooded--7 percent
Inclusion 2: Enko very fine sandy loam, 0 to 2 percent slopes--3 percent

Map Unit Setting

Landscape position: Intermontane basins
Kelk--Landform: Fan skirts
Sonoma--Landform: Flood plains
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan skirts

Major Component Description

Kelk Series
Elevation: 5,700 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Sonoma Series
Elevation: 5,700 to 5,800 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Kelk: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Sonoma: Basin big sagebrush, basin wildrye
Inclusion 1: Basin big sagebrush, greasewood
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Kelk: 025XY019NV
Sonoma: 025XY003NV
Inclusion 1: 024XY006NV
Inclusion 2: 025XY019NV

582--Kelk-Devilsgait-Welch association

Composition

Major Components
Kelk silt loam, 2 to 4 percent slopes--50 percent
Devilsgait silt loam, drained, 0 to 2 percent slopes, rarely flooded--20 percent
Welch silty clay loam, 0 to 2 percent, 0 to 2 percent slopes, frequently flooded--15 percent
Contrasting Inclusions
Inclusion 1: Welch silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--8 percent
Inclusion 2: Durixerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--5 percent
Inclusion 3: Enko fine sandy loam, 2 to 4 percent slopes--2 percent

Map Unit Setting

Landscape position: Intermontane basins
Kelk--Landform: Fan skirts
Devilsgait--Landform: Flood plains
Welch--Landform: Flood plains
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Fan skirts
Inclusion 3--Landform: Fan skirts; position on slope: upper

Major Component Description

Kelk Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Devilsgait Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from

mixed rocks, loess and volcanic ash

Welch Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Kelk: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Devilsgait: Basin big sagebrush, basin wildrye
Welch: Nevada bluegrass, sedge, tufted hairgrass
Inclusion 1: Basin big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Kelk: 025XY019NV
Devilsgait: 025XY003NV
Welch: 025XY005NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

585--Valmy-Luap association

Composition

Major Components
Valmy loam, 2 to 4 percent slopes--55 percent
Luap very gravelly loam, slightly alkali, 2 to 4 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Loray gravelly loam, 2 to 4 percent slopes--5 percent
Inclusion 2: Gravier gravelly loam, 2 to 4 percent slopes--4 percent
Inclusion 3: Sondoa silt loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Bolsons
Valmy--Landform: Fan skirts; position on slope: lower
Luap--Landform: Fan skirts; position on slope: upper
Inclusion 1--Landform: Fan skirts
Inclusion 2--Landform: Fan skirts; shape of slope: concave
Inclusion 3--Landform: Lake plains

Major Component Description

Valmy Series
Elevation: 4,800 to 4,950 feet
Precipitation: About 7 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Luap Series
Elevation: 4,800 to 4,950 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Valmy: Bud sagebrush, shadscale
Luap: Bud sagebrush, shadscale
Inclusion 1: Indian ricegrass, bud sagebrush, shadscale
Inclusion 2: Indian ricegrass, bluegrass, winterfat
Inclusion 3: Sickle saltbush

Ecological Site

Valmy: 028BY074NV
Luap: 028BY074NV
Inclusion 1: 028BY017NV
Inclusion 2: 028BY013NV
Inclusion 3: 024XY012NV

590--Valmy-Enko association

Composition

Major Components
Valmy fine sandy loam, 0 to 2 percent slopes--55 percent
Enko fine sandy loam, 2 to 4 percent slopes--30 percent
Contrasting Inclusions
Inclusion 1: Oupico loam, 2 to 4 percent slopes--4

percent
Inclusion 2: Durorthidic Torriorthents, coarse-silty, mixed (calcareous), mesic sandy loam, 0 to 2 percent slopes--5 percent
Inclusion 3: Kelk silt loam, 0 to 2 percent slopes--2 percent
Inclusion 4: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam, 2 to 8 percent slopes--4 percent

Map Unit Setting

Landscape position: Fan piedmonts
Valmy--Landform: Fan skirts; position on slope: lower
Enko--Landform: Fan skirts; position on slope: upper
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Stream terraces
Inclusion 3--Landform: Inset fans
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope

Major Component Description

Valmy Series
Elevation: 5,600 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 50 degrees
Frost-free season: About 105 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series
Elevation: 5,600 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Valmy: Basin big sagebrush, basin wildrye, black greasewood
Enko: Wyoming big sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Black greasewood, inland saltgrass
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Indian ricegrass, black sagebrush, bottlebrush squirreltail

Ecological Site

Valmy: 024XY022NV
Enko: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY008NV
Inclusion 3: 025XY019NV
Inclusion 4: 024XY030NV

610--Grina-Gochea association

Composition

Major Components
Grina silty clay loam, 15 to 50 percent slopes--45 percent
Gochea loam, 8 to 15 percent slopes--40 percent
Contrasting Inclusions
Inclusion 1: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--10 percent
Inclusion 2: Ekim gravelly loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills
Grina--Landform: Hills; geomorphic position: summit; shape of slope: convex; aspect: south
Gochea--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Major Component Description

Grina Series
Elevation: 6,000 to 7,100 feet
Precipitation: About 10 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 10 percent gravel
Surface layer texture: Silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Gochea Series
Elevation: 6,000 to 7,100 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Grina: Utah juniper, Wyoming big sagebrush, bluebunch wheatgrass
Gochea: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, mountain big sagebrush
Inclusion 2: Bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Grina: 025XY059NV
Gochea: 025XY014NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY009NV

620--Vadaho-Vadaho, strongly sloping association

Composition

Major Components
Vadaho silt loam, 2 to 8 percent slopes--55 percent
Vadaho silt loam, 8 to 15 percent slopes--30 percent
Contrasting Inclusions
Inclusion 1: Lithic Xerollic Haplargids, loamy, mixed, mesic very gravelly loam--10 percent
Inclusion 2: Welch loam, drained, 2 to 4 percent slopes--2 percent
Inclusion 3: Lithic Xeric Torriorthents, loamy, mixed (calcareous), mesic sandy loam--2 percent
Inclusion 4: Gochea silt loam, 8 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Vadaho--Landform: Fan remnants; geomorphic position: summit
Vadaho--Landform: Fan remnants; geomorphic position: backslope
Inclusion 1--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Pediments; geomorphic position: backslope
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Major Component Description

Vadaho Series
Elevation: 5,200 to 6,000 feet
Precipitation: About 11 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Vadaho Series
Elevation: 5,200 to 6,000 feet
Precipitation: About 11 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Vadaho: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Vadaho: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Basin big sagebrush, basin wildrye
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Vadaho: 025XY014NV
Vadaho: 025XY014NV
Inclusion 1: 025XY015NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY025NV
Inclusion 4: 025XY014NV

621--Vadaho-Vadaho, moderately steep-Stampede association

Composition

Major Components

Vadaho silt loam, 4 to 15 percent slopes--55 percent

Vadaho silt loam, 15 to 30 percent slopes--20 percent

Stampede gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Gochea silt loam, 2 to 8 percent slopes--5 percent

Inclusion 2: Typic Durixerolls, fine-loamy, mixed, mesic loam--5 percent

Map Unit Setting

Landscape position: Hills and intermontane basins

Vadaho--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex

Vadaho--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex; aspect: south

Stampede--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north

Inclusion 1--Landform: Inset fans

Inclusion 2--Landform: Hills; geomorphic position: backslope

Major Component Description

Vadaho Series

Elevation: 5,700 to 6,100 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Vadaho Series

Elevation: 5,700 to 6,100 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Stampede Series

Elevation: 5,700 to 6,100 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Vadaho: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass

Vadaho: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass

Stampede: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass

Inclusion 1: Thurber needlegrass, big sagebrush

Inclusion 2: Thurber needlegrass, big sagebrush

Ecological Site

Vadaho: 025XY014NV
Vadaho: 025XY014NV
Stampede: 025XY014NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY014NV

631--Pernty-McIvey-Gollaher association

Composition

Major Components

Pernty very gravelly loam, 15 to 50 percent slopes--45 percent

McIvey gravelly loam, 15 to 50 percent slopes--30 percent

Gollaher very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Sumine gravelly loam, 15 to 50 percent slopes--5 percent

Inclusion 2: Hopeka gravelly loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Mountains

Pernty--Landform: Mountains; geomorphic position: backslope; shape of slope: convex

McIvey--Landform: Mountains; geomorphic position: backslope; shape of slope: plane

Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex

Inclusion 1--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Mountains; geomorphic position: summit

Major Component Description

Pernty Series
Elevation: 6,500 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

McIvey Series
Elevation: 6,500 to 7,200 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks

Gollaher Series
Elevation: 6,500 to 7,200 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Pernty: Sandberg bluegrass, antelope bitterbrush, bluebunch wheatgrass
McIvey: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Utah juniper, black sagebrush, singleleaf pinyon

Ecological Site

Pernty: 025XY012NV
McIvey: 025XY012NV
Gollaher: 025XY057NV
Inclusion 1: 025XY009NV
Inclusion 2: 028BY060NV

632--Pernty-Sumine-Shalcleav association

Composition

Major Components
Pernty very gravelly loam, 15 to 50 percent slopes--50 percent
Sumine very gravelly loam, 30 to 50 percent slopes--20 percent
Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Pachic Haploxerolls, loamy-skeletal, mixed, frigid gravelly silt loam--5 percent
Inclusion 2: Hopeka gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent
Inclusion 4: Pachic Cryoborolls, loamy-skeletal, mixed gravelly silt loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Pernty--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Sumine--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south
Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: upper
Inclusion 3--Landform: Mountains; geomorphic position: summit
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Pernty Series
Elevation: 6,300 to 7,300 feet
Precipitation: About 12 inches

Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Sumine Series
Elevation: 6,300 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Shalcleav Series
Elevation: 6,300 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation
Pernty: Idaho fescue, bluebunch wheatgrass
Sumine: Antelope bitterbrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue
Inclusion 2: Black sagebrush, juniper, singleleaf pinyon
Inclusion 3: Idaho fescue, serviceberry
Inclusion 4: Mountain brome, slender wheatgrass

Ecological Site
Pernty: 025XY012NV
Sumine: 025XY009NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY027NV
Inclusion 2: 028BY060NV
Inclusion 3: 025XY046NV
Inclusion 4: 025XY004NV

633--Pernty-Tweener-Rock outcrop association

Composition
Major Components
Pernty very gravelly loam, 15 to 30 percent slopes--45 percent
Tweener very gravelly loam, 15 to 50 percent slopes--20 percent
Rock outcrop--20 percent
Contrasting Inclusions
Inclusion 1: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--10 percent
Inclusion 2: Typic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 3: Typic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent

Map Unit Setting
Landscape position: Hills
Pernty--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Tweener--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex; aspect: south
Rock outcrop--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: south

Major Component Description
Pernty Series
Elevation: 6,700 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Tweener Series
Elevation: 6,200 to 6,900 feet
Precipitation: About 12 inches

Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rock outcrop Miscellaneous Area
Elevation: 6,200 to 6,900 feet

Dominant Present Vegetation

Pernty: Antelope bitterbrush, bluebunch wheatgrass
Tweener: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Curlleaf mountainmahogany
Inclusion 2: Mountain big sagebrush
Inclusion 3: Bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Pernty: 025XY012NV
Tweener: 025XY007NV
Rock outcrop: None
Inclusion 1: 028BY042NV
Inclusion 2: 025XY076NV
Inclusion 3: 025XY012NV

651--Scalfar-Cleavage-Hackwood association

Composition

Major Components
Scalfar very gravelly loam, 15 to 50 percent slopes--45 percent
Cleavage extremely gravelly loam, 8 to 30 percent slopes--25 percent
Hackwood gravelly loam, 15 to 30 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Hapgood gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Tweener gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 4: Welch silt loam, 0 to 2 percent slopes, frequently flooded--2 percent

Map Unit Setting

Landscape position: Mountains
Scalfar--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Hackwood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Drainageways

Major Component Description

Scalfar Series
Elevation: 6,800 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Cleavage Series
Elevation: 6,800 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hackwood Series
Elevation: 6,800 to 8,000 feet
Precipitation: About 18 inches
Air temperature: About 41 degrees
Frost-free season: About 70 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained

Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Scalfar: Idaho fescue, black sagebrush, bluebunch wheatgrass, low sagebrush
Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Hackwood: California brome, quaking aspen, snowberry
Inclusion 1: Idaho fescue, mountain brome, snowberry
Inclusion 2: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: Idaho fescue, bluebunch wheatgrass, serviceberry
Inclusion 4: Nevada bluegrass, willow

Ecological Site

Scalfar: 025XY024NV
Cleavage: 025XY024NV
Hackwood: 025XY065NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY007NV
Inclusion 3: 025XY046NV
Inclusion 4: 025XY005NV

652--Scalfar-Shalcleav-Quopant association

Composition

Major Components

Scalfar very gravelly loam, 15 to 50 percent slopes--45 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--25 percent
Quopant very gravelly sandy loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hapgood gravelly loam, 15 to 50 percent slopes--7 percent
Inclusion 2: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--4 percent
Inclusion 3: Arva gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 4: Hooplite very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Scalfar--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Shalcleav--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Quopant--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: convex

Major Component Description

Scalfar Series

Elevation: 6,000 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Shalcleav Series

Elevation: 6,000 to 7,500 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Quopant Series

Elevation: 6,000 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Scalfar: Idaho fescue, black sagebrush, bluebunch wheatgrass, low sagebrush
Shalcleav: Idaho fescue, black sagebrush, bluebunch wheatgrass
Quopant: Indian ricegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, mountain brome, snowberry
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Idaho fescue
Inclusion 4: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Ecological Site

Scalfar: 025XY024NV
Shalcleav: 025XY057NV
Quopant: 024XY031NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY027NV
Inclusion 4: 025XY057NV

655--Scalfar-Hapgood association

Composition

Major Components

Scalfar very gravelly loam, 15 to 50 percent slopes--60 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Shalcleav very gravelly loam, 4 to 15 percent slopes--7 percent
Inclusion 2: Pachic Haploxerolls, coarse-loamy, mixed, frigid gravelly silt loam--4 percent
Inclusion 3: Hackwood gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Typic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Mountains
Scalfar--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Hapgood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Mountains; geomorphic position: summit
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: plane

Major Component Description

Scalfar Series

Elevation: 6,800 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Hapgood Series

Elevation: 6,800 to 7,500 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Scalfar: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: Mountain brome, quaking aspen
Inclusion 4: Snowbrush ceanothus

Ecological Site

Scalfar: 025XY024NV
Hapgood: 025XY004NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY012NV

Inclusion 3: 025XY065NV
Inclusion 4: 025XY052NV

656--Scalfar-Fenelon-Booford association

Composition

Major Components

Scalfar very gravelly loam, gravelly substratum, 4 to 15 percent slopes--40 percent
Fenelon gravelly silt loam, 4 to 15 percent slopes--30 percent
Booford gravelly clay loam, 2 to 8 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Xerollic Haplargids, clayey, montmorillonitic, frigid, shallow gravelly silt loam--5 percent
Inclusion 2: Wicup silty clay loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Pachic Argixerolls, fine, montmorillonitic, frigid--5 percent

Map Unit Setting

Landscape position: Hills
Scalfar--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Fenelon--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Booford--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave

Major Component Description

Scalfar Series

Elevation: 6,200 to 7,100 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Fenelon Series

Elevation: 6,200 to 7,100 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Booford Series

Elevation: 6,200 to 7,100 feet
Precipitation: About 18 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 20 percent cobbles
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Scalfar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Fenelon: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Booford: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 3: Idaho fescue, snowberry

Ecological Site

Scalfar: 025XY057NV
Fenelon: 024XY031NV
Booford: 025XY007NV
Inclusion 1: 025XY060NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY004NV

660--Hooplite, steep-Hooplite association

Composition

Major Components

Hooplite very gravelly loam, 15 to 50 percent slopes--70 percent
Hooplite very gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Rodie gravelly loam, 15 to 30 percent slopes--10 percent

Inclusion 2: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent
Inclusion 3: Valmy very fine sandy loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Hooplite--Landform: Hills; geomorphic position: backslope
Hooplite--Landform: Hills; geomorphic position: summit; position on slope: lower
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Drainageways

Major Component Description

Hooplite Series
Elevation: 5,600 to 7,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hooplite Series
Elevation: 5,600 to 7,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Hooplite: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hooplite: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Black sagebrush, bluebunch wheatgrass
Inclusion 2: Big sagebrush, bluebunch wheatgrass, cheatgrass
Inclusion 3: Big sagebrush, black greasewood, inland saltgrass

Ecological Site

Hooplite: 025XY057NV
Hooplite: 025XY057NV
Inclusion 1: 025XY055NV
Inclusion 2: 025XY014NV
Inclusion 3: 024XY022NV

661--Hooplite-Hooplite, moderately steep-Ackett association

Composition

Major Components
Hooplite very gravelly loam, 4 to 15 percent slopes--50 percent
Hooplite very gravelly loam, 15 to 30 percent slopes--20 percent
Ackett very gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Zapa very gravelly silt loam, 4 to 15 percent slopes--10 percent
Inclusion 2: Aridic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 3: Valmy very fine sandy loam, 2 to 8 percent slopes--2 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Hooplite--Landform: Hills; geomorphic position: summit
Hooplite--Landform: Hills; geomorphic position: backslope
Ackett--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: summit; shape of slope: convex

Major Component Description

Hooplite Series
Elevation: 5,800 to 6,500 feet

Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hooplite Series
Elevation: 5,800 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Ackett Series
Elevation: 5,800 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks, loess and volcanic ash

Dominant Present Vegetation

Hooplite: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hooplite: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Ackett: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 2: Thurber needlegrass, big sagebrush
Inclusion 3: Big sagebrush, black greasewood, inland saltgrass
Inclusion 4: None

Ecological Site

Hooplite: 025XY057NV
Hooplite: 025XY057NV
Ackett: 024XY030NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY014NV
Inclusion 3: 024XY022NV
Inclusion 4: none

662--Hooplite-Peeko-Zapa association

Composition

Major Components
Hooplite very gravelly loam, 4 to 15 percent slopes--35 percent
Peeko silt loam, 4 to 15 percent slopes--30 percent
Zapa very gravelly silt loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Chuska loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Ackett very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Xerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--4 percent
Inclusion 4: Loomis extremely cobbly clay loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Hooplite--Landform: Hills; geomorphic position: summit
Peeko--Landform: Fan remnants; geomorphic position: summit
Zapa--Landform: Fan remnants; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Inset fans
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Hooplite Series
Elevation: 5,200 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Peeko Series
Elevation: 5,200 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam

Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Zapa Series
Elevation: 5,200 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Hooplite: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, cheatgrass
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Thurber needlegrass, black sagebrush

Ecological Site

Hooplite: 025XY057NV
Peeko: 024XY030NV
Zapa: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV
Inclusion 4: 024XY030NV

664--Hooplite-Hooplite, moderately steep-Kram association

Composition

Major Components
Hooplite very gravelly loam, 4 to 15 percent slopes--35 percent
Hooplite very gravelly loam, 15 to 30 percent slopes--30 percent
Kram very gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Izar gravelly sandy loam, 15 to 30 percent slopes--7 percent
Inclusion 2: Kram very gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--2 percent
Inclusion 4: Hundraw gravelly sandy loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Hooplite--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Hooplite--Landform: Hills; geomorphic position: backslope
Kram--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description

Hooplite Series
Elevation: 5,300 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hooplite Series
Elevation: 5,300 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Kram Series
Elevation: 5,300 to 5,800 feet

Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Hooplite: Utah juniper, black sagebrush, bluebunch wheatgrass
Hooplite: Utah juniper, black sagebrush, bluebunch wheatgrass
Kram: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Utah juniper, black sagebrush
Inclusion 3: Big sagebrush, bluebunch wheatgrass
Inclusion 4: Utah juniper, black sagebrush

Ecological Site

Hooplite: 025XY057NV
Hooplite: 025XY057NV
Kram: 025XY060NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY060NV
Inclusion 3: 025XY014NV
Inclusion 4: 025XY060NV

665--Hooplite, moderately steep-Hooplite-Izar association

Composition

Major Components

Hooplite very gravelly loam, 15 to 30 percent slopes--40 percent
Hooplite very gravelly loam, 4 to 15 percent slopes--25 percent
Izar very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Chuska sandy clay loam, 4 to 15 percent slopes--6 percent
Inclusion 2: Vanwyper very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Durixerollic Haplargids, loamy-skeletal, mixed, mesic gravelly loam--3 percent
Inclusion 4: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Hills
Hooplite--Landform: Hills; geomorphic position: backslope; position on slope: upper
Hooplite--Landform: Hills; geomorphic position: backslope; position on slope: lower
Izar--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: summit; shape of slope: convex

Major Component Description

Hooplite Series

Elevation: 5,400 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hooplite Series

Elevation: 5,400 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Izar Series

Elevation: 5,400 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Hooplite: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Hooplite: Indian ricegrass, Thurber needlegrass, black sagebrush
Izar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Inclusion 2: Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 3: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 4: None

Ecological Site

Hooplite: 025XY057NV
Hooplite: 025XY057NV
Izar: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY015NV
Inclusion 3: 025XY019NV
Inclusion 4: none

666--Hooplite-Hooplite, moderately steep-Kleckner association

Composition

Major Components

Hooplite very gravelly loam, 4 to 15 percent slopes--45 percent
Hooplite very gravelly loam, 15 to 30 percent slopes--25 percent
Kleckner gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Xerollic Haplargids, loamy-skeletal, mixed, frigid, shallow, 4 to 15 percent slopes--10 percent
Inclusion 2: Pachic Haploxerolls, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes--2 percent
Inclusion 3: Lithic Argixerolls, loamy-skeletal, mixed, frigid, 4 to 15 percent slopes--2 percent
Inclusion 4: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow sandy loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Hooplite--Landform: Hills
Hooplite--Landform: Hills
Kleckner--Landform: Hills
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Major Component Description

Hooplite Series

Elevation: 5,500 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hooplite Series

Elevation: 5,500 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Kleckner Series

Elevation: 5,500 to 6,200 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Hooplite: Indian ricegrass, Thurber needlegrass, black sagebrush
Hooplite: Indian ricegrass, Thurber needlegrass, black sagebrush
Kleckner: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Hooplite: 025XY057NV
Hooplite: 025XY057NV
Kleckner: 025XY014NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY004NV

Inclusion 3: 025XY046NV
Inclusion 4: 025XY025NV

670--Ackett-Kleckner-Anowell association

Composition

Major Components

Ackett very gravelly loam, 4 to 15 percent slopes--40 percent
Kleckner gravelly loam, 4 to 15 percent slopes--30 percent
Anowell gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Durixerollic Haplargids, fine, montmorillonitic, mesic gravelly loam--10 percent
Inclusion 2: Hooplite extremely gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 3: Rodie very gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Valmy very fine sandy loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Ackett--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Kleckner--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Anowell--Landform: Pediments; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Inset fans

Major Component Description

Ackett Series

Elevation: 5,800 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Kleckner Series

Elevation: 5,800 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from volcanic rocks

Anowell Series

Elevation: 5,800 to 6,500 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Ackett: Indian ricegrass, Thurber needlegrass, black sagebrush
Kleckner: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Anowell: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Black sagebrush, bluebunch wheatgrass
Inclusion 4: Big sagebrush, black greasewood, inland saltgrass

Ecological Site

Ackett: 024XY030NV
Kleckner: 025XY014NV
Anowell: 024XY031NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY055NV
Inclusion 4: 024XY022NV

672--Ackett-Ackett, gently sloping-Cameek association

Composition

Major Components

Ackett very gravelly loam, 4 to 15 percent slopes--50 percent

Ackett very gravelly loam, 2 to 4 percent slopes--20 percent
Cameek silt loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic gravelly silt loam--8 percent
Inclusion 2: Durargidic Argixerolls, clayey-skeletal, montmorillonitic, frigid gravelly loam--3 percent
Inclusion 3: Gance very gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 4: Ackett gravelly silt loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Ackett--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Ackett--Landform: Fan remnants; geomorphic position: summit
Cameek--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane

Major Component Description

Ackett Series

Elevation: 5,800 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Ackett Series

Elevation: 5,800 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Cameek Series

Elevation: 5,800 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Ackett: Indian ricegrass, Thurber needlegrass, black sagebrush
Ackett: Indian ricegrass, Thurber needlegrass, black sagebrush
Cameek: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Inclusion 1: Black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Indian ricegrass, black sagebrush

Ecological Site

Ackett: 024XY030NV
Ackett: 024XY030NV
Cameek: 025XY014NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY019NV
Inclusion 4: 024XY030NV

673--Ackett-Ackett, gently sloping-Gance association

Composition

Major Components

Ackett very gravelly loam, 4 to 15 percent slopes--50 percent
Ackett very gravelly loam, 2 to 4 percent slopes--20 percent
Gance very gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions
Inclusion 1: Geysen silt loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic gravelly silt loam--5 percent
Inclusion 3: Gance very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 4: Bilbo very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting
Landscape position: Fan piedmonts
Ackett--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Ackett--Landform: Fan remnants; geomorphic position: summit
Gance--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; aspect: north
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; aspect: south

Major Component Description
Ackett Series
Elevation: 5,400 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Ackett Series
Elevation: 5,400 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Gance Series
Elevation: 5,400 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation
Ackett: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Ackett: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Gance: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Bluebunch wheatgrass, low sagebrush
Inclusion 2: Indian ricegrass, black sagebrush, cheatgrass
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Wyoming big sagebrush, bluebunch wheatgrass, cheatgrass

Ecological Site
Ackett: 024XY030NV
Ackett: 024XY030NV
Gance: 025XY019NV
Inclusion 1: 025XY022NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY015NV

674--Ackett-Zapa association

Composition
Major Components
Ackett very gravelly loam, 2 to 8 percent slopes--55 percent
Zapa very gravelly silt loam, 15 to 50 percent slopes--30 percent
Contrasting Inclusions
Inclusion 1: Xerollic Calciorthids, loamy-skeletal, mixed, mesic very gravelly loam--8 percent
Inclusion 2: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--3 percent
Inclusion 3: Typic Xerorthents, loamy-skeletal, mixed, frigid very gravelly sandy loam--2 percent
Inclusion 4: Peeko extremely cobbly loam, 4 to 15 percent slopes--2 percent

Map Unit Setting
Landscape position: Fan piedmonts

Ackett--Landform: Fan remnants; geomorphic position: summit
Zapa--Landform: Fan remnants; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 4--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Ackett Series
Elevation: 5,000 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Zapa Series
Elevation: 5,000 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Ackett: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Zapa: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: Wyoming big sagebrush
Inclusion 2: Nevada bluegrass, basin big sagebrush
Inclusion 3: Sandberg bluegrass, Wyoming big sagebrush, cheatgrass
Inclusion 4: Sandberg bluegrass, black sagebrush, bud sagebrush

Ecological Site

Ackett: 024XY030NV
Zapa: 024XY030NV
Inclusion 1: 025XY015NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY026NV

678--Izar, moderately steep-Izar association

Composition

Major Components
Izar very gravelly loam, 15 to 30 percent slopes--65 percent
Izar very gravelly loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Wiffo very gravelly loam, 2 to 8 percent slopes--10 percent
Inclusion 2: Hundraw gravelly very fine sandy loam, 8 to 30 percent slopes--2 percent
Inclusion 3: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--2 percent
Inclusion 4: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Izar--Landform: Hills; geomorphic position: backslope
Izar--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Inset fans; position on slope: lower
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description

Izar Series
Elevation: 5,100 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Izar Series
Elevation: 5,100 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam

Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 3: Basin wildrye, big sagebrush, black greasewood
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Izar: 024XY030NV
Izar: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY060NV
Inclusion 3: 024XY022NV
Inclusion 4: 025XY019NV

679--Izar-Dewar-Izar, moderately steep association

Composition

Major Components

Izar very gravelly loam, 4 to 15 percent slopes--30 percent
Dewar gravelly silt loam, 2 to 8 percent slopes--30 percent
Izar very gravelly loam, 15 to 30 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Yuko very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Wiffo very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Pibler very gravelly loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Hundraw gravelly fine sandy loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Izar--Landform: Hills; geomorphic position: summit
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Izar--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Pediments; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Izar Series

Elevation: 5,000 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dewar Series

Elevation: 5,000 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Izar Series

Elevation: 5,000 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Dewar: Wyoming big sagebrush, bluebunch wheatgrass
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 4: Utah juniper, black sagebrush

Ecological Site

Izar: 024XY030NV
Dewar: 025XY019NV
Izar: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY030NV
Inclusion 4: 025XY060NV

680--Izar-Holborn-Kzin association

Composition

Major Components

Izar very gravelly loam, 15 to 50 percent slopes--50 percent
Holborn gravelly loam, 8 to 30 percent slopes--20 percent
Kzin very gravelly loam, 8 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Wiffo gravelly loam, 2 to 4 percent slopes--6 percent
Inclusion 2: Puett gravelly sandy loam, 30 to 75 percent slopes--3 percent
Inclusion 3: Pibler very gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 4: Kelk silt loam, 2 to 4 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Izar--Landform: Pediments; geomorphic position: summit; shape of slope: convex; aspect: south
Holborn--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: north
Kzin--Landform: Pediments; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Pediments; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 3--Landform: Pediments; geomorphic position: summit
Inclusion 4--Landform: Inset fans

Major Component Description

Izar Series

Elevation: 5,600 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Holborn Series

Elevation: 5,600 to 6,500 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Kzin Series

Elevation: 5,600 to 6,500 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Holborn: Indian ricegrass, black sagebrush
Kzin: Indian ricegrass, Utah juniper, black sagebrush, singleleaf pinyon
Inclusion 1: Sandberg bluegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 3: Indian ricegrass, Thurber needlegrass, black greasewood
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush, cheatgrass

Ecological Site

Izar: 028BY011NV
Holborn: 028AY004NV
Kzin: 028BY060NV
Inclusion 1: 028BY010NV
Inclusion 2: 025XY025NV
Inclusion 3: 028BY011NV

Inclusion 4: 028BY010NV

681--Izar-Loomis-Vanwyper association

Composition

Major Components

Izar very gravelly loam, 15 to 50 percent slopes--40 percent

Loomis very gravelly loam, 8 to 30 percent slopes--30 percent

Vanwyper very gravelly loam, 30 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Oupico loam, 4 to 15 percent slopes--5 percent

Inclusion 2: Vanwyper very gravelly loam, 8 to 30 percent slopes--5 percent

Inclusion 3: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic very gravelly loam--3 percent

Inclusion 4: Xerollic Camborthids, coarse-loamy, mixed, mesic silt loam--2 percent

Map Unit Setting

Landscape position: Hills

Izar--Landform: Hills; geomorphic position: summit; shape of slope: plane

Loomis--Landform: Hills; geomorphic position: summit; shape of slope: convex

Vanwyper--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south

Inclusion 1--Landform: Fan remnants; geomorphic position: summit

Inclusion 2--Landform: Hills; geomorphic position: summit

Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Inclusion 4--Landform: Inset fans

Major Component Description

Izar Series

Elevation: 5,900 to 6,700 feet

Precipitation: About 9 inches

Air temperature: About 46 degrees

Frost-free season: About 110 days

Surface rock fragments: 60 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Somewhat excessively drained

Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Loomis Series

Elevation: 5,900 to 6,700 feet

Precipitation: About 11 inches

Air temperature: About 46 degrees

Frost-free season: About 90 days

Surface rock fragments: 10 percent cobbles; 35 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Vanwyper Series

Elevation: 5,900 to 6,700 feet

Precipitation: About 10 inches

Air temperature: About 45 degrees

Frost-free season: About 110 days

Surface rock fragments: 10 percent cobbles; 30 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush

Loomis: Indian ricegrass, Sandberg bluegrass, black sagebrush

Vanwyper: Wyoming big sagebrush, bluebunch wheatgrass

Inclusion 1: Thurber needlegrass, Wyoming big sagebrush

Inclusion 2: Thurber needlegrass, Wyoming big sagebrush

Inclusion 3: Indian ricegrass, Sandberg bluegrass, black sagebrush

Inclusion 4: Thurber needlegrass, Wyoming big sagebrush, cheatgrass

Ecological Site

Izar: 024XY030NV

Loomis: 024XY030NV

Vanwyper: 025XY015NV

Inclusion 1: 025XY019NV

Inclusion 2: 025XY019NV

Inclusion 3: 025XY026NV

Inclusion 4: 025XY019NV

682--Izar-Zapa-Peeko association

Composition

Major Components

Izar very gravelly loam, 15 to 30 percent slopes--35 percent

Zapa very gravelly silt loam, 8 to 15 percent slopes--30 percent
Peeko silt loam, 2 to 8 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Puett gravelly sandy loam, 15 to 50 percent slopes--10 percent
Inclusion 2: Dewar gravelly silt loam, 4 to 15 percent slopes--3 percent
Inclusion 3: Typic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Izar--Landform: Hills; geomorphic position: backslope
Zapa--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Peeko--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: north

Major Component Description

Izar Series
Elevation: 6,000 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Zapa Series
Elevation: 6,000 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Peeko Series
Elevation: 6,000 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Sandberg bluegrass, bluebunch wheatgrass

Ecological Site

Izar: 024XY030NV
Zapa: 024XY030NV
Peeko: 024XY030NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY042NV

683--Izar-Holborn-Hundraw association

Composition

Major Components
Izar very gravelly loam, 30 to 50 percent slopes--45 percent
Holborn gravelly loam, 30 to 50 percent slopes--30 percent
Hundraw gravelly fine sandy loam, 15 to 30 percent slopes, eroded--15 percent
Contrasting Inclusions
Inclusion 1: Izar very cobbly loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Lithic Torriorthents, loamy-skeletal, mixed (calcareous), mesic very gravelly loam--3 percent
Inclusion 3: Wiffo very gravelly loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Izar--Landform: Hills; geomorphic position: backslope; position on slope: lower; aspect: south
Holborn--Landform: Hills; geomorphic position: backslope; aspect: north

Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; aspect: south
Inclusion 3--Landform: Drainageways

Major Component Description

Izar Series
Elevation: 5,100 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Holborn Series
Elevation: 5,100 to 5,800 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Hundraw Series
Elevation: 5,100 to 5,800 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Holborn: Indian ricegrass, black sagebrush
Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Indian ricegrass, bud sagebrush, shadscale
Inclusion 3: Sandberg bluegrass, Wyoming big sagebrush

Ecological Site

Izar: 024XY030NV
Holborn: 028AY004NV
Hundraw: 025XY060NV
Inclusion 1: 024XY030NV
Inclusion 2: 024XY002NV
Inclusion 3: 025XY019NV

684--Izar-Rock outcrop association

Composition

Major Components
Izar very stony loam, 8 to 30 percent slopes--65 percent
Rock outcrop--20 percent
Contrasting Inclusions
Inclusion 1: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic very gravelly loam--8 percent
Inclusion 2: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow gravelly silt loam--5 percent
Inclusion 3: Xerollic Calciorthids, loamy-skeletal, mixed, mesic very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills
Izar--Landform: Hills; geomorphic position: summit
Rock outcrop--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: backslope
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: upper

Major Component Description

Izar Series
Elevation: 4,900 to 5,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very stony loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Rock outcrop Miscellaneous Area
Elevation: 4,900 to 5,300 feet

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, bud sagebrush, shadscale
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Indian ricegrass, Wyoming big sagebrush

Ecological Site

Izar: 028BY011NV
Rock outcrop: None
Inclusion 1: 028BY017NV
Inclusion 2: 028BY011NV
Inclusion 3: 028BY010NV

685--Izar-Puett-Yuko association

Composition

Major Components
Izar very gravelly loam, 4 to 15 percent slopes--35 percent
Puett gravelly sandy loam, 15 to 50 percent slopes--30 percent
Yuko very gravelly loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Dewar gravelly silt loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Xerollic Camborthids, coarse-loamy, mixed, mesic silt loam--5 percent
Inclusion 3: Nevador loam, 4 to 15 percent slopes--3 percent
Inclusion 4: Lithic Xerollic Haplargids, loamy, mixed, mesic very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Izar--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Puett--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Yuko--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description

Izar Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Puett Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Yuko Series
Elevation: 5,800 to 6,000 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Puett: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Yuko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush

Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Wyoming big sagebrush

Ecological Site

Izar: 024XY030NV
Puett: 025XY025NV
Yuko: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY019NV

686--Izar-Vanwyper association

Composition

Major Components

Izar very gravelly loam, 15 to 50 percent slopes--50 percent
Vanwyper very gravelly loam, 15 to 50 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--5 percent
Inclusion 2: Lithic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--5 percent
Inclusion 3: Quarz very gravelly loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills
Izar--Landform: Hills; geomorphic position: summit; shape of slope: convex
Vanwyper--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: upper; aspect: south

Major Component Description

Izar Series

Elevation: 5,700 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Vanwyper Series

Elevation: 5,700 to 6,200 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Vanwyper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: None
Inclusion 2: Idaho fescue, black sagebrush, low sagebrush
Inclusion 3: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass

Ecological Site

Izar: 024XY030NV
Vanwyper: 025XY015NV
Inclusion 1: none
Inclusion 2: 025XY024NV
Inclusion 3: 025XY009NV

687--Izar-Wiffo association

Composition

Major Components

Izar very gravelly loam, 2 to 8 percent slopes--50 percent
Wiffo very gravelly loam, 2 to 8 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Gravier very gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Wiffo Variant very stony loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic very gravelly loam--4 percent
Inclusion 4: Durorthidic Xeric Torripsamments, mixed, mesic cobbly loam--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Izar--Landform: Pediments; geomorphic position: summit
Wiffo--Landform: Fan skirts
Inclusion 1--Landform: Fan skirts
Inclusion 2--Landform: Fan skirts; shape of slope: plane
Inclusion 3--Landform: Pediments; position on slope: upper
Inclusion 4--Landform: Fan skirts; shape of slope: concave

Major Component Description

Izar Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Wiffo Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 1 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from limestone and dolomite

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Wiffo: Wyoming big sagebrush
Inclusion 1: Indian ricegrass, bud sagebrush, winterfat
Inclusion 2: Wyoming big sagebrush, bottlebrush squirreltail, spiny hopsage
Inclusion 3: Indian ricegrass, Sandberg bluegrass, Wyoming big sagebrush
Inclusion 4: Wyoming big sagebrush, bottlebrush squirreltail, spiny hopsage

Ecological Site

Izar: 028BY011NV
Wiffo: 028BY010NV
Inclusion 1: 028BY013NV
Inclusion 2: 028BY052NV
Inclusion 3: 028BY010NV
Inclusion 4: 028BY052NV

688--Izar-Yuko association

Composition

Major Components
Izar very gravelly loam, 2 to 15 percent slopes--50 percent
Yuko very gravelly loam, 4 to 15 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Chiara silt loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Kelk silt loam, 0 to 2 percent slopes--5 percent
Inclusion 3: Peeko silt loam, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Izar--Landform: Pediments; geomorphic position: summit
Yuko--Landform: Pediments; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex

Major Component Description

Izar Series
Elevation: 6,000 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Yuko Series
Elevation: 6,000 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Yuko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Indian ricegrass, black sagebrush

Ecological Site

Izar: 024XY030NV
Yuko: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY030NV

689--Izar-Zapa-Puett association

Composition

Major Components

Izar very gravelly loam, 15 to 50 percent slopes--45 percent
Zapa very gravelly silt loam, 4 to 15 percent slopes--25 percent
Puett gravelly sandy loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Shalper gravelly sandy loam, 15 to 50 percent slopes--10 percent
Inclusion 2: Nevador very gravelly loam, 2 to 8 percent slopes--2 percent
Inclusion 3: Yuko gravelly sandy loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Oupico sandy loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Izar--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: south
Zapa--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Puett--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 1--Landform: Pediments; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Inset fans

Major Component Description

Izar Series

Elevation: 5,500 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from sandstone

Zapa Series

Elevation: 5,500 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Puett Series

Elevation: 5,500 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sandstone

Dominant Present Vegetation

Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Puett: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush
Inclusion 3: Wyoming big sagebrush, basin wildrye,

bluebunch wheatgrass
Inclusion 4: Indian ricegrass, Wyoming big sagebrush, needleandthread

Ecological Site

Izar: 024XY030NV
Zapa: 024XY030NV
Puett: 025XY025NV
Inclusion 1: 025XY021NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY015NV
Inclusion 4: 024XY017NV

690--Oupico-Oupico, moderately steep-Peeko association

Composition

Major Components

Oupico sandy loam, 4 to 15 percent slopes--50 percent
Oupico sandy loam, 15 to 30 percent slopes--20 percent
Peeko silt loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Zapa very gravelly silt loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Xerollic Durorthids, coarse-loamy, mixed, mesic silt loam--5 percent
Inclusion 3: Yuko loam, 30 to 50 percent slopes--3 percent
Inclusion 4: Aridic Durixerolls, loamy-skeletal, mixed, frigid, shallow very gravelly loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Oupico--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Oupico--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Peeko--Landform: Fan remnants; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 3--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; aspect: north

Major Component Description

Oupico Series

Elevation: 5,600 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Oupico Series

Elevation: 5,600 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Peeko Series

Elevation: 5,600 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Oupico: Indian ricegrass, Wyoming big sagebrush, needleandthread
Oupico: Indian ricegrass, Wyoming big sagebrush, needleandthread
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Big sagebrush, needleandthread
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Thurber needlegrass, black sagebrush

Ecological Site

Oupico: 024XY017NV
Oupico: 024XY017NV
Peeko: 024XY030NV
Inclusion 1: 024XY030NV

Inclusion 2: 024XY017NV
Inclusion 3: 025XY015NV
Inclusion 4: 024XY031NV

691--Oupico-Enko association

Composition

Major Components

Oupico loam, 2 to 4 percent slopes--65 percent
Enko loam, gravelly substratum, 2 to 8 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Chiara silt loam, 0 to 2 percent slopes--5 percent
Inclusion 2: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Oupico--Landform: Fan remnants; geomorphic position: summit
Enko--Landform: Fan remnants; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Major Component Description

Oupico Series

Elevation: 5,700 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Enko Series

Elevation: 5,700 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Oupico: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Enko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Oupico: 025XY019NV
Enko: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV

700--Xica-Shalcleav-Hapgood association

Composition

Major Components

Xica sandy loam, 4 to 15 percent slopes--35 percent
Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--35 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Pernty very gravelly loam, 15 to 50 percent slopes--6 percent
Inclusion 2: Chen gravelly loam, 15 to 30 percent slopes--6 percent
Inclusion 3: Tweener very gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Xerollic Durargids, loamy-skeletal, mixed, frigid, shallow gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Xica--Landform: Hills; geomorphic position: summit
Shalcleav--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Hapgood--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Hills; geomorphic position: summit; position on slope: upper

Major Component Description

Xica Series

Elevation: 6,200 to 7,300 feet

Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Shalcleav Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hapgood Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Xica: Idaho fescue, Thurber needlegrass, black sagebrush, low sagebrush
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Bluebunch wheatgrass, snowberry
Inclusion 2: Idaho fescue, low sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 4: Sandberg bluegrass, black sagebrush, bottlebrush squirreltail

Ecological Site

Xica: 025XY024NV
Shalcleav: 025XY057NV
Hapgood: 025XY004NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY007NV
Inclusion 4: 025XY026NV

701--Xica-Xica, steep-Agort association

Composition

Major Components
Xica sandy loam, 4 to 15 percent slopes--30 percent
Xica sandy loam, 15 to 50 percent slopes--30 percent
Agort gravelly sandy loam, 15 to 50 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Agort gravelly sandy loam, 4 to 15 percent slopes--7 percent
Inclusion 2: Ola sandy loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Earcree gravelly sandy loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Lithic Xeric Torriorthents, sandy-skeletal, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Mountains
Xica--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Xica--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Agort--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: summit; position on slope: upper

Major Component Description

Xica Series
Elevation: 5,800 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum derived from

granitic rocks

Xica Series
Elevation: 5,800 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum derived from granitic rocks

Agort Series
Elevation: 5,800 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from granitic rocks

Dominant Present Vegetation

Xica: Idaho fescue, black sagebrush, bluegrass, low sagebrush
Xica: Idaho fescue, black sagebrush, low sagebrush
Agort: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, antelope bitterbrush
Inclusion 2: Bluebunch wheatgrass
Inclusion 3: Mountain big sagebrush, mountain brome, snowberry
Inclusion 4: Bluebunch wheatgrass, oceanspray

Ecological Site

Xica: 025XY024NV
Xica: 025XY024NV
Agort: 025XY007NV
Inclusion 1: 025XY007NV
Inclusion 2: 025XY012NV
Inclusion 3: 025XY004NV
Inclusion 4: 025XY058NV

730--Geysen-Welch-Batan association

Composition

Major Components
Geysen silt loam, 2 to 4 percent slopes--40 percent
Welch silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--25 percent
Batan silt loam, 2 to 4 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Xipe silt loam, 0 to 2 percent slopes, occasionally flooded--10 percent
Inclusion 2: Cumulic Haploxerolls, loamy-skeletal, mixed, frigid silt loam--2 percent
Inclusion 3: Xerollic Haplargids, loamy, mixed, mesic, shallow gravelly silt loam--2 percent
Inclusion 4: Puett sandy loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Geysen--Landform: Fan remnants
Welch--Landform: Flood plains
Batan--Landform: Inset fans
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Geysen Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 8 inches
Air temperature: About 49 degrees
Frost-free season: About 105 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Welch Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Batan Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 8 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam

Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Geysen: Big sagebrush, black greasewood, inland saltgrass
Welch: Nevada bluegrass, basin big sagebrush, basin wildrye
Batan: Sandberg bluegrass, big sagebrush, black greasewood
Inclusion 1: Basin big sagebrush, basin wildrye, black greasewood
Inclusion 2: Basin wildrye
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Indian ricegrass, black sagebrush

Ecological Site

Geysen: 024XY022NV
Welch: 025XY003NV
Batan: 024XY022NV
Inclusion 1: 024XY006NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY025NV

731--Geysen-Crooked Creek-Batan association

Composition

Major Components

Geysen silt loam, 2 to 4 percent slopes--45 percent
Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--25 percent
Batan silt loam, 0 to 2 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Sonoma silt loam, drained, 0 to 2 percent slopes--7 percent
Inclusion 2: Ocala silt loam, strongly saline-alkali, 0 to 2 percent slopes--2 percent
Inclusion 3: Kelk silt loam, 0 to 2 percent slopes--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Geysen--Landform: Fan remnants
Crooked Creek--Landform: Flood plains
Batan--Landform: Fan skirts
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Fan skirts

Major Component Description

Geysen Series

Elevation: 5,200 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 49 degrees
Frost-free season: About 105 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Crooked Creek Series

Elevation: 5,200 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from mixed rocks

Batan Series

Elevation: 5,200 to 5,500 feet
Precipitation: About 7 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Geysen: Big sagebrush, black greasewood, bottlebrush squirreltail
Crooked Creek: Basin big sagebrush, basin wildrye
Batan: Big sagebrush, black greasewood
Inclusion 1: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 2: Basin wildrye, black greasewood
Inclusion 3: Thurber needlegrass, bluebunch wheatgrass

Ecological Site

Geysen: 024XY022NV
Crooked Creek: 025XY003NV
Batan: 024XY022NV
Inclusion 1: 024XY007NV

Inclusion 2: 024XY008NV
Inclusion 3: 025XY019NV

742--Cleavage extremely gravelly loam-Cleavage-Vitale association

Composition

Major Components

Cleavage extremely gravelly loam, 8 to 30 percent slopes--40 percent
Cleavage very gravelly loam, 4 to 15 percent slopes--25 percent
Vitale very gravelly loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--5 percent
Inclusion 2: Aridic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--5 percent
Inclusion 3: Argic Cryoborolls, loamy-skeletal, mixed very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Hogmalat very gravelly loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Plateaus and hills
Cleavage--Landform: Hills; geomorphic position: summit; shape of slope: convex
Cleavage--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Vitale--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Canyons; geomorphic position: backslope
Inclusion 2--Landform: Canyons; geomorphic position: backslope
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Cleavage Series

Elevation: 6,200 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Cleavage Series

Elevation: 6,200 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Vitale Series

Elevation: 6,200 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Vitale: Idaho fescue, bluebunch wheatgrass
Inclusion 1: Black sagebrush, bluebunch wheatgrass
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Snowbrush ceanothus
Inclusion 4: Idaho fescue, curlleaf mountainmahogany

Ecological Site

Cleavage: 025XY024NV
Cleavage: 025XY017NV
Vitale: 025XY027NV
Inclusion 1: 025XY055NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY052NV
Inclusion 4: 028BY043NV

743--Cleavage-Cleavage extremely gravelly loam association

Composition

Major Components

Cleavage very gravelly loam, 4 to 15 percent slopes--55 percent

Cleavage extremely gravelly loam, 15 to 50 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Tweener very gravelly loam, 15 to 30 percent slopes--7 percent

Inclusion 2: Sumine very gravelly loam, 15 to 50 percent slopes--3 percent

Inclusion 3: Typic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent

Inclusion 4: Snotown very gravelly coarse sandy loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains

Cleavage--Landform: Mountains; geomorphic position:
summit; position on slope: lower; shape of slope: plane

Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex

Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: convex

Inclusion 2--Landform: Mountains; geomorphic position: backslope; aspect: south

Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave

Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series

Elevation: 6,500 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Cleavage Series

Elevation: 6,500 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush

Cleavage: Idaho fescue, black sagebrush, bluegrass, low sagebrush

Inclusion 1: Antelope bitterbrush, snowberry

Inclusion 2: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 3: Idaho fescue

Inclusion 4: Letterman needlegrass, tailcup lupine

Ecological Site

Cleavage: 025XY017NV
Cleavage: 025XY024NV
Inclusion 1: 025XY007NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY027NV
Inclusion 4: 025XY028NV

744--Cleavage-Graley-Hapgood association

Composition

Major Components

Cleavage extremely gravelly loam, 15 to 50 percent slopes--35 percent

Graley extremely gravelly loam, 15 to 50 percent slopes--30 percent

Hapgood very gravelly loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Sumine very gravelly loam, 30 to 50 percent slopes--8 percent

Inclusion 2: Gollaher extremely gravelly loam, 15 to 50 percent slopes--2 percent

Inclusion 3: Snotown very gravelly coarse sandy loam, 30 to 50 percent slopes--1 percent

Inclusion 4: Chen very gravelly loam, 15 to 30 percent slopes--4 percent

Map Unit Setting

Landscape position: Mountains

Cleavage--Landform: Mountains; geomorphic position: summit; shape of slope: convex

Graley--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Hapgood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: convex

Major Component Description

Cleavage Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Graley Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Hapgood Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Cleavage: Idaho fescue, black sagebrush, bluegrass, low sagebrush
Graley: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Basin wildrye, bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Thurber needlegrass
Inclusion 3: Letterman needlegrass, tailcup lupine
Inclusion 4: Idaho fescue, low sagebrush

Ecological Site

Cleavage: 025XY024NV
Graley: 025XY007NV
Hapgood: 025XY004NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY028NV
Inclusion 4: 025XY017NV

745--Cleavage-Graley-Shalcleav association

Composition

Major Components
Cleavage very gravelly loam, 15 to 50 percent slopes--35 percent
Graley very gravelly loam, 15 to 50 percent slopes--30 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Typic Haploxerolls, fine, montmorillonitic, frigid loam--6 percent
Inclusion 2: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--5 percent
Inclusion 3: Quarz very gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 4: Rubble land--2 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Graley--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Shalcleav--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower

Inclusion 4--Landform: Hills; position on slope: upper

Major Component Description

Cleavage Series
Elevation: 6,000 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Graley Series
Elevation: 6,000 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series
Elevation: 6,000 to 7,000 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Sandberg bluegrass, low sagebrush
Graley: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Basin big sagebrush, basin wildrye
Inclusion 2: Basin wildrye, bluebunch wheatgrass
Inclusion 3: Thurber needlegrass
Inclusion 4: None

Ecological Site

Cleavage: 025XY017NV
Graley: 025XY012NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY014NV
Inclusion 4: none

746--Cleavage-Hackwood-Graley association

Composition

Major Components
Cleavage extremely gravelly loam, 30 to 75 percent slopes--50 percent
Hackwood gravelly loam, 30 to 50 percent slopes--20 percent
Graley extremely gravelly loam, 30 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Hapgood gravelly loam, 30 to 50 percent slopes--7 percent
Inclusion 2: Gollaher extremely gravelly loam, 30 to 75 percent slopes--4 percent
Inclusion 3: Lithic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent
Inclusion 4: Snotown very gravelly coarse sandy loam, 30 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Hackwood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Graley--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 4--Landform: Mountains; geomorphic position: summit; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series
Elevation: 6,800 to 8,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Hackwood Series
Elevation: 6,800 to 8,400 feet
Precipitation: About 18 inches
Air temperature: About 41 degrees
Frost-free season: About 70 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks

Graley Series
Elevation: 6,800 to 8,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Hackwood: California brome, quaking aspen
Graley: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Mountain brome
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Black sagebrush, low sagebrush
Inclusion 4: Letterman needlegrass, tailcup lupine

Ecological Site

Cleavage: 025XY024NV
Hackwood: 025XY065NV
Graley: 025XY007NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY024NV
Inclusion 4: 025XY028NV

747--Cleavage-Keman-Hogmalat association

Composition

Major Components
Cleavage extremely gravelly loam, 4 to 15 percent slopes--35 percent
Keman gravelly loam, 4 to 15 percent slopes--35 percent
Hogmalat very gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Keman gravelly loam, 30 to 75 percent slopes--5 percent
Inclusion 2: Player gravelly loam, 30 to 75 percent slopes--5 percent
Inclusion 3: Argic Cryoborolls, loamy-skeletal, mixed very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Argic Cryoborolls, loamy-skeletal, mixed very gravelly loam--2 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Keman--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Hogmalat--Landform: Mountains; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Mountains; geomorphic position: backslope
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: plane
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope

Major Component Description

Cleavage Series
Elevation: 6,400 to 7,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 50 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Keman Series
Elevation: 6,400 to 7,400 feet

Precipitation: About 20 inches
Air temperature: About 42 degrees
Frost-free season: About 50 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from pyroclastic and extrusive volcanic rocks

Hogmalat Series
Elevation: 6,400 to 7,400 feet
Precipitation: About 20 inches
Air temperature: About 43 degrees
Frost-free season: About 50 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush
Keman: Idaho fescue, mountain big sagebrush
Hogmalat: Idaho fescue, curlleaf mountainmahogany, mountain big sagebrush
Inclusion 1: Idaho fescue
Inclusion 2: Black sagebrush, bluebunch wheatgrass
Inclusion 3: Idaho fescue, snowbrush ceanothus
Inclusion 4: Mountain brome, mountain brome, quaking aspen, snowberry

Ecological Site

Cleavage: 025XY024NV
Keman: 025XY056NV
Hogmalat: 028BY043NV
Inclusion 1: 025XY056NV
Inclusion 2: 025XY055NV
Inclusion 3: 025XY052NV
Inclusion 4: 025XY065NV

748--Cleavage-Shalcleav-Quopant association

Composition

Major Components
Cleavage extremely gravelly loam, 4 to 15 percent slopes--40 percent
Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--30 percent
Quopant very gravelly sandy loam, 30 to 75 percent slopes--15 percent

Contrasting Inclusions
Inclusion 1: Quarz very gravelly loam, 4 to 15 percent slopes--8 percent
Inclusion 2: Sumine very gravelly loam, 30 to 75 percent slopes--3 percent
Inclusion 3: Scalfar very gravelly loam, 30 to 75 percent slopes--2 percent
Inclusion 4: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: summit
Shalcleav--Landform: Hills; geomorphic position: summit
Quopant--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Hills

Major Component Description

Cleavage Series
Elevation: 5,800 to 6,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalcleav Series
Elevation: 5,800 to 6,800 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Quopant Series
Elevation: 5,800 to 6,800 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees

Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Quopant: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Basin big sagebrush, bottlebrush squirreltail
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Black sagebrush, low sagebrush
Inclusion 4: None

Ecological Site

Cleavage: 025XY024NV
Shalcleav: 025XY057NV
Quopant: 024XY031NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY024NV
Inclusion 4: none

749--Cleavage-Snotown-Chen association

Composition

Major Components

Cleavage extremely gravelly loam, 15 to 50 percent slopes--45 percent
Snotown very gravelly coarse sandy loam, 30 to 50 percent slopes--25 percent
Chen very gravelly loam, 30 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Graley extremely gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Entic Cryumbrepts, loamy-skeletal, mixed gravelly loam--3 percent
Inclusion 3: Argic Pachic Cryoborolls, loamy-skeletal, mixed very gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 4: Gollaher extremely gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Snotown--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Chen--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: summit; shape of slope: convex

Major Component Description

Cleavage Series

Elevation: 6,400 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Snotown Series

Elevation: 6,400 to 7,400 feet
Precipitation: About 16 inches
Air temperature: About 41 degrees
Frost-free season: About 60 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly coarse sandy loam
Drainage class: Moderately well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Chen Series

Elevation: 6,400 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent cobbles; 25 percent gravel

Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush
Snotown: Letterman needlegrass, tailcup lupine
Chen: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 1: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 2: Mountain brome, quaking aspen
Inclusion 3: Mountain big sagebrush, mountain brome, snowberry
Inclusion 4: Thurber needlegrass, black sagebrush

Ecological Site

Cleavage: 025XY024NV
Snotown: 025XY028NV
Chen: 025XY017NV
Inclusion 1: 025XY007NV
Inclusion 2: 025XY002NV
Inclusion 3: 025XY004NV
Inclusion 4: 025XY057NV

750--Cleavage-Bullump-Hackwood association

Composition

Major Components

Cleavage extremely gravelly loam, 15 to 50 percent slopes--50 percent
Bullump very gravelly loam, 15 to 50 percent slopes--20 percent
Hackwood gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hapgood very gravelly loam, 30 to 50 percent slopes--8 percent
Inclusion 2: Snotown very gravelly coarse sandy loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Entic Cryumbrepts, loamy-skeletal, mixed very gravelly loam, 30 to 50 percent slopes--3 percent
Inclusion 4: Argic Cryoborolls, loamy-skeletal, mixed, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Bullump--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south
Hackwood--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit; shape of slope: concave; aspect: north
Inclusion 3--Landform: Drainageways; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series

Elevation: 7,500 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Bullump Series

Elevation: 7,500 to 8,500 feet
Precipitation: About 15 inches
Air temperature: About 43 degrees
Frost-free season: About 80 days
Surface rock fragments: 5 percent cobbles; 20 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks

Hackwood Series

Elevation: 7,500 to 8,500 feet
Precipitation: About 18 inches
Air temperature: About 41 degrees
Frost-free season: About 70 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from quartzite

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Bullump: Idaho fescue, antelope bitterbrush, mountain big sagebrush, snowberry
Hackwood: California brome
Inclusion 1: Idaho fescue, snowberry
Inclusion 2: Letterman needlegrass, tailcup lupine
Inclusion 3: Quaking aspen, snowberry
Inclusion 4: Idaho fescue, snowbrush ceanothus

Ecological Site

Cleavage: 025XY024NV
Bullump: 025XY016NV
Hackwood: 025XY065NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY028NV
Inclusion 3: 025XY002NV
Inclusion 4: 025XY052NV

751--Cleavage-Cleavage extremely gravelly loam-Hapgood association

Composition

Major Components

Cleavage very gravelly loam, 15 to 50 percent slopes--40 percent
Cleavage extremely gravelly loam, 4 to 15 percent slopes--30 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Pachic Haploxerolls, loamy-skeletal, mixed, frigid gravelly silt loam--10 percent
Inclusion 2: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 3: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 4: Typic Chromoxererts, fine, montmorillonitic, frigid clay--1 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Cleavage--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Hapgood--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series

Elevation: 6,400 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Cleavage Series

Elevation: 6,400 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Hapgood Series

Elevation: 6,400 to 7,600 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Cleavage: Idaho fescue, black sagebrush, low sagebrush
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry

Inclusion 1: Bluebunch wheatgrass
Inclusion 2: Curlleaf mountainmahogany, pine bluegrass
Inclusion 3: Idaho fescue, serviceberry
Inclusion 4: Idaho fescue, wyethia

Ecological Site

Cleavage: 025XY017NV
Cleavage: 025XY024NV
Hapgood: 025XY004NV
Inclusion 1: 025XY042NV
Inclusion 2: 028BY042NV
Inclusion 3: 025XY046NV
Inclusion 4: 025XY047NV

752--Cleavage-Arcia-Lerrow association

Composition

Major Components

Cleavage extremely gravelly loam, 15 to 50 percent slopes--40 percent
Arcia silt loam, 15 to 50 percent slopes--30 percent
Lerrow gravelly loam, 30 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Agassiz very gravelly silt loam, 4 to 15 percent slopes--7 percent
Inclusion 2: Pachic Haploxerolls, loamy-skeletal, mixed, frigid gravelly silt loam--6 percent
Inclusion 3: Gollaher very gravelly loam, 15 to 50 percent slopes--1 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: summit; shape of slope: convex
Arcia--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Lerrow--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Cleavage Series

Elevation: 6,500 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Arcia Series

Elevation: 6,500 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Lerrow Series

Elevation: 6,500 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Dominant Present Vegetation

Cleavage: Idaho fescue, black sagebrush, low sagebrush
Arcia: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
Lerrow: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Bluebunch wheatgrass, curlleaf mountainmahogany
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Black sagebrush
Inclusion 4: None

Ecological Site

Cleavage: 025XY024NV
Arcia: 025XY012NV
Lerrow: 025XY009NV
Inclusion 1: 028BY042NV
Inclusion 2: 025XY027NV

Inclusion 3: 025XY057NV
Inclusion 4: none

753--Cleavage-Shalper-Rock outcrop association

Composition

Major Components

Cleavage very gravelly loam, 15 to 50 percent slopes--40 percent
Shalper very gravelly loam, 15 to 50 percent slopes--30 percent
Rock outcrop--15 percent

Contrasting Inclusions

Inclusion 1: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--10 percent
Inclusion 2: Pachic Argixerolls, loamy-skeletal, mixed, frigid gravelly silt loam--4 percent
Inclusion 3: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north
Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Rock outcrop--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north

Major Component Description

Cleavage Series

Elevation: 6,000 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalper Series

Elevation: 6,000 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Rock outcrop Miscellaneous Area

Elevation: 6,000 to 7,200 feet

Dominant Present Vegetation

Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Shalper: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Bluebunch wheatgrass

Ecological Site

Cleavage: 025XY017NV
Shalper: 025XY021NV
Rock outcrop: None
Inclusion 1: 025XY060NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY042NV

754--Cleavage-Cleavage extremely gravelly loam-Sumine association

Composition

Major Components

Cleavage very gravelly loam, 15 to 30 percent slopes--35 percent
Cleavage extremely gravelly loam, 15 to 50 percent slopes--30 percent
Sumine very gravelly loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Loncan gravelly loam, 15 to 50 percent slopes--6 percent
Inclusion 2: Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Vanwyper gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 4: Hapgood gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills

Cleavage--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Cleavage--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Sumine--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Cleavage Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Sumine Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Sumine: Antelope bitterbrush
Inclusion 1: Bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush
Inclusion 4: Mountain brome, snowberry

Ecological Site

Cleavage: 025XY017NV
Cleavage: 025XY024NV
Sumine: 025XY009NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY015NV
Inclusion 4: 025XY004NV

755--Cleavage-Sumine-Hapgood association

Composition

Major Components
Cleavage extremely gravelly loam, 15 to 30 percent slopes--35 percent
Sumine very gravelly loam, 30 to 50 percent slopes--35 percent
Hapgood very gravelly loam, 30 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Cleavage very gravelly loam, 15 to 30 percent slopes--6 percent
Inclusion 2: Snotown very gravelly coarse sandy loam, 50 to 75 percent slopes--2 percent
Inclusion 3: Pachic Haploxerolls, loamy-skeletal, mixed, frigid gravelly silt loam--2 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Sumine--Landform: Mountains; geomorphic position: backslope; aspect: south
Hapgood--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: plane

Inclusion 2--Landform: Mountains; geomorphic position: summit; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series
Elevation: 6,000 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Sumine Series
Elevation: 6,000 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Hapgood Series
Elevation: 6,000 to 7,400 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Cleavage: Idaho fescue, black sagebrush, low sagebrush
Sumine: Antelope bitterbrush, basin wildrye, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Idaho fescue, low sagebrush
Inclusion 2: Letterman needlegrass, tailcup lupine
Inclusion 3: Basin wildrye, big bluegrass

Ecological Site

Cleavage: 025XY024NV
Sumine: 025XY009NV
Hapgood: 025XY004NV
Inclusion 1: 025XY017NV
Inclusion 2: 025XY028NV
Inclusion 3: 025XY029NV

756--Cleavage-Sumine-Pernty association

Composition

Major Components
Cleavage extremely gravelly loam, 15 to 50 percent slopes--30 percent
Sumine very gravelly loam, 15 to 50 percent slopes--30 percent
Pernty very gravelly loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions
Inclusion 1: Chayson loam, 4 to 15 percent slopes--10 percent
Inclusion 2: Scalfar very gravelly loam, gravelly substratum, 4 to 15 percent slopes--3 percent
Inclusion 3: Tweener very gravelly loam, 15 to 30 percent slopes--1 percent
Inclusion 4: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Sumine--Landform: Hills; geomorphic position: backslope; aspect: south
Pernty--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Drainageways

Major Component Description

Cleavage Series
Elevation: 5,700 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Sumine Series
Elevation: 5,700 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Pernty Series
Elevation: 5,700 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from mixed rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Sumine: Antelope bitterbrush, bluebunch wheatgrass
Pernty: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush
Inclusion 4: Nevada bluegrass, basin wildrye

Ecological Site

Cleavage: 025XY024NV
Sumine: 025XY009NV
Pernty: 025XY012NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY007NV
Inclusion 4: 025XY003NV

757--Cleavage-Sumine-Snotown association

Composition

Major Components
Cleavage extremely gravelly loam, 15 to 50 percent slopes--50 percent
Sumine very gravelly loam, 15 to 50 percent slopes--25 percent
Snotown very gravelly coarse sandy loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Cleavage very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Entic Cryumbrepts, loamy-skeletal, mixed very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 3: Hapgood very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Sumine--Landform: Mountains; geomorphic position: backslope; aspect: south
Snotown--Landform: Mountains; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north

Major Component Description

Cleavage Series
Elevation: 6,600 to 7,800 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Sumine Series
Elevation: 6,600 to 7,800 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Snotown Series
Elevation: 6,600 to 7,800 feet

Precipitation: About 16 inches
Air temperature: About 41 degrees
Frost-free season: About 60 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly coarse sandy loam
Drainage class: Moderately well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Sumine: Antelope bitterbrush, bluebunch wheatgrass
Snotown: Letterman needlegrass, tailcup lupine
Inclusion 1: Idaho fescue, bluegrass, low sagebrush
Inclusion 2: Mountain brome, quaking aspen
Inclusion 3: Mountain brome, snowberry

Ecological Site

Cleavage: 025XY024NV
Sumine: 025XY009NV
Snotown: 025XY028NV
Inclusion 1: 025XY017NV
Inclusion 2: 025XY002NV
Inclusion 3: 025XY004NV

758--Cleavage-Tweener-Graley association

Composition

Major Components

Cleavage extremely gravelly loam, 4 to 15 percent slopes--40 percent
Tweener very gravelly loam, 15 to 50 percent slopes--25 percent
Graley very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Sumine very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 2: Bullump gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Hapgood very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 4: Chen very gravelly loam, 15 to 30 percent slopes--3 percent

Map Unit Setting

Landscape position: Hills
Cleavage--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex
Tweener--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Graley--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane; aspect: north

Major Component Description

Cleavage Series

Elevation: 6,500 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Tweener Series

Elevation: 6,500 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Graley Series

Elevation: 6,500 to 7,400 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush

Tweener: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Graley: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 1: Basin wildrye, bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Basin wildrye, mountain big sagebrush, mountain brome
Inclusion 3: Mountain brome, snowberry
Inclusion 4: Idaho fescue, low sagebrush

Ecological Site

Cleavage: 025XY024NV
Tweener: 025XY007NV
Graley: 025XY012NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY016NV
Inclusion 3: 025XY004NV
Inclusion 4: 025XY017NV

759--Cleavage-Tweener-Scalfar association

Composition

Major Components

Cleavage extremely gravelly loam, 4 to 15 percent slopes--35 percent
Tweener very gravelly loam, 15 to 50 percent slopes--30 percent
Scalfar very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--5 percent
Inclusion 2: Rock outcrop--5 percent
Inclusion 3: Graley very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 4: Welch silt loam, 0 to 2 percent slopes, frequently flooded--2 percent

Map Unit Setting

Landscape position: Mountains
Cleavage--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Tweener--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Scalfar--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: backslope
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Drainageways

Major Component Description

Cleavage Series

Elevation: 6,800 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Tweener Series

Elevation: 6,800 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Scalfar Series

Elevation: 6,800 to 7,600 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks

Dominant Present Vegetation

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush
Tweener: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Scalfar: Idaho fescue, black sagebrush, low sagebrush
Inclusion 1: Idaho fescue, mountain big sagebrush, serviceberry
Inclusion 2: None
Inclusion 3: Idaho fescue, snowberry

Inclusion 4: Nevada bluegrass, alpine timothy

Ecological Site

Cleavage: 025XY024NV
Tweener: 025XY007NV
Scalfar: 025XY024NV
Inclusion 1: 025XY046NV
Inclusion 2: 025XY012NV
Inclusion 3: 025XY012NV
Inclusion 4: 025XY005NV

760--Jericho-Peeko-Izar association

Composition

Major Components

Jericho gravelly sandy loam, 2 to 8 percent slopes--40 percent
Peeko silt loam, 2 to 8 percent slopes--25 percent
Izar very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Kelk silt loam, 2 to 8 percent slopes--4 percent
Inclusion 2: Gravier gravelly loam, 2 to 8 percent slopes--4 percent
Inclusion 3: Oupico gravelly silt loam, 2 to 8 percent slopes--4 percent
Inclusion 4: Yuko gravelly sandy loam, 15 to 30 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Jericho--Landform: Fan remnants; geomorphic position: summit
Peeko--Landform: Fan remnants; geomorphic position: summit
Izar--Landform: Pediments; geomorphic position: backslope
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Inclusion 4--Landform: Pediments; geomorphic position: backslope; aspect: south

Major Component Description

Jericho Series

Elevation: 5,300 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Peeko Series

Elevation: 5,300 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Izar Series

Elevation: 5,300 to 5,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Jericho: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 2: Indian ricegrass, bud sagebrush, winterfat
Inclusion 3: Wyoming big sagebrush, cheatgrass, needleandthread
Inclusion 4: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass

Ecological Site

Jericho: 025XY019NV
Peeko: 024XY030NV
Izar: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 028BY013NV
Inclusion 3: 024XY017NV
Inclusion 4: 025XY015NV

761--Jericho-Gance association

Composition

Major Components

Jericho gravelly sandy loam, 4 to 15 percent slopes--55 percent

Gance very gravelly loam, 15 to 50 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Peeko silt loam, 4 to 15 percent slopes--4 percent

Inclusion 2: Yuko gravelly sandy loam, 15 to 50 percent slopes--4 percent

Inclusion 3: Hundraw gravelly loam, 15 to 50 percent slopes--4 percent

Inclusion 4: Kelk silt loam, 2 to 8 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts

Jericho--Landform: Fan remnants; geomorphic position: summit

Gance--Landform: Fan remnants; geomorphic position: backslope

Inclusion 1--Landform: Fan remnants; geomorphic position: summit

Inclusion 2--Landform: Fan remnants; geomorphic position: summit

Inclusion 3--Landform: Pediments; geomorphic position: backslope

Inclusion 4--Landform: Inset fans

Major Component Description

Jericho Series

Elevation: 5,600 to 6,100 feet

Precipitation: About 9 inches

Air temperature: About 47 degrees

Frost-free season: About 110 days

Surface rock fragments: 15 percent gravel

Surface layer texture: Gravelly sandy loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks

Gance Series

Elevation: 5,600 to 6,100 feet

Precipitation: About 9 inches

Air temperature: About 48 degrees

Frost-free season: About 110 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Jericho: Thurber needlegrass, Wyoming big sagebrush, bottlebrush squirreltail

Gance: Thurber needlegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Inclusion 1: Indian ricegrass, black sagebrush

Inclusion 2: Basin big sagebrush, basin wildrye, bluebunch wheatgrass

Inclusion 3: Indian ricegrass, black sagebrush

Inclusion 4: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Ecological Site

Jericho: 025XY019NV

Gance: 025XY019NV

Inclusion 1: 024XY030NV

Inclusion 2: 025XY015NV

Inclusion 3: 024XY030NV

Inclusion 4: 025XY019NV

762--Jericho-Peeko-Gance association

Composition

Major Components

Jericho gravelly sandy loam, 4 to 15 percent slopes--50 percent

Peeko silt loam, 4 to 15 percent slopes--20 percent

Gance very gravelly loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Kleckner gravelly loam, 15 to 30 percent slopes--8 percent

Inclusion 2: Puett gravelly sandy loam, 15 to 50 percent slopes--5 percent

Inclusion 3: Aridic Haploxerolls, loamy-skeletal, mixed, mesic very gravelly loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts

Jericho--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Peeko--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex

Gance--Landform: Fan remnants; geomorphic position: backslope

Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; aspect: north

Inclusion 2--Landform: Pediments; geomorphic

position: backslope; aspect: south
Inclusion 3--Landform: Inset fans

Major Component Description

Jericho Series
Elevation: 5,600 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Peeko Series
Elevation: 5,600 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gance Series
Elevation: 5,600 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Jericho: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Gance: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, cheatgrass

Ecological Site

Jericho: 025XY019NV
Peeko: 024XY030NV
Gance: 025XY019NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY025NV
Inclusion 3: 025XY014NV

763--Jericho-Pamison-Peeko association

Composition

Major Components
Jericho gravelly sandy loam, 2 to 8 percent slopes--30 percent
Pamison gravelly loam, 4 to 15 percent slopes--30 percent
Peeko silt loam, 2 to 8 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Hundraw gravelly loam, 8 to 30 percent slopes--8 percent
Inclusion 2: Dewar gravelly silt loam, 2 to 8 percent slopes--4 percent
Inclusion 3: Wiffo gravelly loam, 2 to 8 percent slopes--2 percent
Inclusion 4: Aridic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Jericho--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Pamison--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Peeko--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Pediments; geomorphic position: backslope
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Inclusion 3--Landform: Inset fans
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Jericho Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Pamison Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 10 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks

Peeko Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Jericho: Thurber needlegrass, Wyoming big sagebrush, bottlebrush squirreltail
Pamison: Thurber needlegrass, black sagebrush
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush, cheatgrass
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, cheatgrass
Inclusion 4: Indian ricegrass, Utah juniper, black sagebrush

Ecological Site

Jericho: 025XY019NV
Pamison: 024XY031NV
Peeko: 024XY030NV
Inclusion 1: 025XY060NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY060NV

764--Jericho-Jericho silt loam association

Composition

Major Components
Jericho gravelly sandy loam, 2 to 8 percent slopes--50 percent
Jericho silt loam, 2 to 8 percent slopes--35 percent

Contrasting Inclusions
Inclusion 1: Jericho very cobbly loam, 8 to 30 percent slopes--5 percent
Inclusion 2: Shafter gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Wiffo Variant very stony loam, 4 to 15 percent slopes--3 percent
Inclusion 4: Wiffo very gravelly loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Jericho--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Jericho--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope
Inclusion 2--Landform: Fan remnants; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 4--Landform: Inset fans

Major Component Description

Jericho Series
Elevation: 5,100 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Jericho Series
Elevation: 5,100 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Jericho: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Jericho: Indian ricegrass, Wyoming big sagebrush, spiny hopsage
Inclusion 1: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 2: Indian ricegrass, winterfat
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, spiny hopsage
Inclusion 4: Indian ricegrass, Wyoming big sagebrush

Ecological Site

Jericho: 028BY010NV
Jericho: 025XY052NV
Inclusion 1: 028BY010NV
Inclusion 2: 028BY013NV
Inclusion 3: 028BY052NV
Inclusion 4: 028BY010NV

765--Jericho-Pequop-Yuko association

Composition

Major Components

Jericho gravelly sandy loam, 4 to 15 percent slopes--30 percent
Pequop gravelly loam, 15 to 50 percent slopes--30 percent
Yuko gravelly sandy loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Puett gravelly sandy loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Lithic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--5 percent
Inclusion 3: Izar very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Pachic Haploxerolls, coarse-loamy, mixed, frigid gravelly silt loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Jericho--Landform: Fan remnants; geomorphic position: summit
Pequop--Landform: Pediments; geomorphic position: backslope; aspect: north
Yuko--Landform: Pediments; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 2--Landform: Pediments; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; position on slope: upper; aspect: north

Major Component Description

Jericho Series

Elevation: 6,400 to 6,900 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Pequop Series

Elevation: 6,400 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 45 degrees
Frost-free season: About 100 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Yuko Series

Elevation: 6,400 to 6,900 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 25 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Jericho: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass
Pequop: Idaho fescue, bluebunch wheatgrass
Yuko: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 2: Bluebunch wheatgrass
Inclusion 3: Indian ricegrass, black sagebrush
Inclusion 4: Idaho fescue, serviceberry, snowberry

Ecological Site

Jericho: 025XY019NV
Pequop: 025XY012NV
Yuko: 025XY015NV
Inclusion 1: 025XY025NV

Inclusion 2: 025XY042NV
Inclusion 3: 024XY030NV
Inclusion 4: 025XY010NV

780--Puett-Peeko-Yuko association

Composition

Major Components

Puett gravelly sandy loam, 15 to 50 percent slopes--35 percent
Peeko silt loam, 4 to 15 percent slopes--30 percent
Yuko gravelly sandy loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Izar very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Orovada sandy loam, 2 to 8 percent slopes--3 percent
Inclusion 3: Hooplite extremely gravelly loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Puett--Landform: Hills; geomorphic position: backslope
Peeko--Landform: Fan remnants; geomorphic position: summit
Yuko--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Hills; geomorphic position: summit

Major Component Description

Puett Series

Elevation: 5,800 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Peeko Series

Elevation: 5,800 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Yuko Series

Elevation: 5,800 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 25 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Puett: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Yuko: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush

Ecological Site

Puett: 025XY025NV
Peeko: 024XY030NV
Yuko: 025XY015NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY057NV

781--Puett-Izar-Shalper association

Composition

Major Components

Puett gravelly sandy loam, 15 to 50 percent slopes--45 percent
Izar very gravelly loam, 15 to 50 percent slopes--20 percent
Shalper very gravelly sandy loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, loamy-skeletal, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 2: Loomis extremely cobbly clay loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Hundraw gravelly loam, 4 to 15 percent slopes--3 percent

Inclusion 4: Rock outcrop--3 percent

Map Unit Setting

Landscape position: Hills
Puett--Landform: Hills; geomorphic position: backslope; aspect: south
Izar--Landform: Hills; geomorphic position: backslope
Shalper--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills

Major Component Description

Puett Series
Elevation: 6,300 to 6,700 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Izar Series
Elevation: 6,300 to 6,700 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Shalper Series
Elevation: 6,300 to 6,700 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Puett: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Indian ricegrass, black sagebrush
Inclusion 4: None

Ecological Site

Puett: 025XY025NV
Izar: 024XY030NV
Shalper: 025XY021NV
Inclusion 1: 024XY031NV
Inclusion 2: 024XY030NV
Inclusion 3: 024XY030NV
Inclusion 4: none

790--Loomis-Ackett-Dewar association

Composition

Major Components
Loomis very cobbly loam, 4 to 15 percent slopes--40 percent
Ackett very gravelly loam, 4 to 15 percent slopes--30 percent
Dewar gravelly silt loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Xerollic Durargids, clayey, montmorillontic, mesic, shallow silt loam--5 percent
Inclusion 2: Izar very gravelly sandy loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Xerollic Haplargids, clayey-skeletal, montmorillontic, mesic gravelly silt loam--4 percent
Inclusion 4: Rodie very gravelly loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Loomis--Landform: Hills; geomorphic position: summit; shape of slope: convex
Ackett--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Dewar--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Pediments; geomorphic position: summit

Inclusion 3--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Loomis Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent cobbles; 35 percent gravel
Surface layer texture: Very cobbly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Ackett Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from volcanic rocks, loess and volcanic ash

Dewar Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Loomis: Indian ricegrass, Thurber needlegrass, black sagebrush
Ackett: Indian ricegrass, Thurber needlegrass, black sagebrush
Dewar: Wyoming big sagebrush, basin wildrye, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Black sagebrush, bluebunch wheatgrass

Ecological Site

Loomis: 024XY030NV
Ackett: 024XY030NV
Dewar: 025XY019NV
Inclusion 1: 024XY030NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY055NV

796--Gollaher very gravelly loam, 15 to 50 percent slopes

Composition

Major Components
Gollaher very gravelly loam, 15 to 50 percent slopes--85 percent
Contrasting Inclusions
Inclusion 1: Cryic Rendolls, loamy-skeletal, carbonatic very gravelly loam, 15 to 50 percent slopes--7 percent
Inclusion 2: Gollaher very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Typic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: convex

Major Component Description

Gollaher Series
Elevation: 6,800 to 8,200 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Mountain brome, snowberry
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Antelope bitterbrush, mountain big sagebrush
Inclusion 4: None

Ecological Site

Gollaher: 025XY057NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY016NV
Inclusion 4: none

797--Gollaher-Amene association

Composition

Major Components

Gollaher very gravelly loam, 15 to 50 percent slopes--60 percent
Amene very gravelly silt loam, 15 to 50 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Belsac very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 2: Snotown very gravelly coarse sandy loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Rubble land--2 percent
Inclusion 4: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Amene--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: summit
Inclusion 4--Landform: Mountains; geomorphic position: summit

Major Component Description

Gollaher Series

Elevation: 6,800 to 8,700 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Amene Series

Elevation: 6,800 to 8,700 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Amene: Sandberg bluegrass, bluebunch wheatgrass, serviceberry
Inclusion 1: Idaho fescue, mountain big sagebrush, snowberry
Inclusion 2: Letterman needlegrass
Inclusion 3: None
Inclusion 4: None

Ecological Site

Gollaher: 025XY057NV
Amene: 025XY046NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY028NV
Inclusion 3: none
Inclusion 4: none

798--Gollaher-Amene-Hackwood association

Composition

Major Components

Gollaher very gravelly loam, 15 to 50 percent slopes--45 percent
Amene very gravelly silt loam, 30 to 50 percent slopes--25 percent
Hackwood gravelly loam, 30 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Belsac gravelly loam, 30 to 50 percent slopes--10 percent

Inclusion 2: Ekim very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Typic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Amene--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Hackwood--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: south

Major Component Description

Gollaher Series
Elevation: 6,400 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Amene Series
Elevation: 6,400 to 8,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Hackwood Series
Elevation: 6,400 to 8,000 feet
Precipitation: About 18 inches
Air temperature: About 41 degrees
Frost-free season: About 70 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from quartzite

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Amene: Antelope bitterbrush, bluebunch wheatgrass, serviceberry
Hackwood: California brome, quaking aspen, snowberry
Inclusion 1: Idaho fescue, mountain big sagebrush, snowberry
Inclusion 2: Bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Idaho fescue

Ecological Site

Gollaher: 025XY057NV
Amene: 025XY046NV
Hackwood: 025XY065NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY027NV

799--Gollaher-Arcia-Vitale association

Composition

Major Components
Gollaher very gravelly loam, 15 to 50 percent slopes--40 percent
Arcia silt loam, 15 to 50 percent slopes--25 percent
Vitale very gravelly loam, 8 to 30 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Lithic Xerollic Calciorthids, loamy-skeletal, carbonatic, frigid very gravelly loam--7 percent
Inclusion 2: Cotant very gravelly loam, 15 to 50 percent slopes--7 percent
Inclusion 3: Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Hills
Gollaher--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex

Arcia--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Vitale--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 3--Landform: Drainageways

Major Component Description

Gollaher Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Arcia Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 75 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Vitale Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Arcia: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Vitale: Basin big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, cheatgrass
Inclusion 2: Idaho fescue, bluegrass, low sagebrush
Inclusion 3: Nevada bluegrass, basin wildrye

Ecological Site

Gollaher: 025XY057NV
Arcia: 025XY012NV
Vitale: 025XY027NV
Inclusion 1: 025XY021NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY003NV

801--Gollaher-Amene-Onkeyo association

Composition

Major Components
Gollaher very gravelly loam, 15 to 50 percent slopes--35 percent
Amene very gravelly silt loam, 15 to 50 percent slopes--25 percent
Onkeyo very gravelly silty clay loam, 15 to 30 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--6 percent
Inclusion 2: Belsac gravelly loam, 50 to 75 percent slopes--4 percent
Inclusion 3: Pachic Haploxerolls, fine-loamy, mixed, frigid gravelly silt loam--3 percent
Inclusion 4: Lithic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Amene--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Onkeyo--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: north

Major Component Description

Gollaher Series
Elevation: 6,000 to 7,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Amene Series
Elevation: 6,000 to 7,400 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from limestone and dolomite

Onkeyo Series
Elevation: 6,000 to 7,400 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Gollaher: Sandberg bluegrass, Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Amene: Idaho fescue, bluebunch wheatgrass, serviceberry
Onkeyo: Sandberg bluegrass, bluebunch wheatgrass
Inclusion 1: Antelope bitterbrush, mountain big sagebrush
Inclusion 2: Idaho fescue, mountain brome, snowberry
Inclusion 3: Big bluegrass
Inclusion 4: Idaho fescue

Ecological Site

Gollaher: 025XY057NV
Amene: 025XY046NV
Onkeyo: 025XY042NV
Inclusion 1: 025XY009NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY029NV
Inclusion 4: 025XY010NV

802--Gollaher, steep-Hackwood-Gollaher association

Composition

Major Components
Gollaher very gravelly loam, steep, 30 to 75 percent slopes, 30 to 75 percent slopes--50 percent
Hackwood gravelly loam, 30 to 50 percent slopes--20 percent
Gollaher very gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Wiffo Variant gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Bullump very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Belsac very gravelly loam, 15 to 50 percent slopes--6 percent
Inclusion 4: Amene very gravelly loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Hackwood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Gollaher--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave; aspect: north
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: convex

Major Component Description

Gollaher Series
Elevation: 6,800 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees

Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hackwood Series
Elevation: 6,800 to 8,500 feet
Precipitation: About 18 inches
Air temperature: About 41 degrees
Frost-free season: About 70 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gollaher Series
Elevation: 6,800 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hackwood: California brome, quaking aspen, snowberry
Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, quaking aspen, snowberry
Inclusion 2: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 3: Idaho fescue, mountain big sagebrush, snowberry
Inclusion 4: Serviceberry

Ecological Site

Gollaher: 025XY057NV
Hackwood: 025XY065NV
Gollaher: 025XY057NV
Inclusion 1: 025XY002NV
Inclusion 2: 025XY016NV
Inclusion 3: 025XY004NV
Inclusion 4: 025XY046NV

804--Gollaher-Onkeyo-Nirac association

Composition

Major Components
Gollaher very gravelly loam, 15 to 50 percent slopes--50 percent
Onkeyo very gravelly silty clay loam, 15 to 50 percent slopes--20 percent
Nirac gravelly silt loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Hopeka very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Belsac gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Ekim very gravelly loam, 15 to 50 percent slopes--3 percent
Inclusion 4: Rock outcrop--3 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Onkeyo--Landform: Mountains; geomorphic position: backslope; shape of slope: plane
Nirac--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 4--Landform: Mountains; geomorphic position: summit; shape of slope: convex

Major Component Description

Gollaher Series
Elevation: 6,500 to 8,300 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Onkeyo Series
Elevation: 6,500 to 8,300 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Nirac Series
Elevation: 6,500 to 8,300 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Onkeyo: Idaho fescue, serviceberry
Nirac: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush, singleleaf pinyon
Inclusion 2: Idaho fescue, snowberry
Inclusion 3: Bluebunch wheatgrass, mountain big sagebrush
Inclusion 4: None

Ecological Site

Gollaher: 025XY057NV
Onkeyo: 025XY042NV
Nirac: 025XY012NV
Inclusion 1: 028BY060NV
Inclusion 2: 025XY004NV
Inclusion 3: 025XY009NV
Inclusion 4: none

805--Gollaher-Ekim-Hapgood association

Composition

Major Components
Gollaher very gravelly loam, 15 to 50 percent slopes--55 percent
Ekim very gravelly loam, 15 to 50 percent slopes--20 percent
Hapgood very gravelly loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Amene very gravelly silt loam, 15 to 50 percent slopes--3 percent
Inclusion 2: Pachic Haploxerolls, fine-loamy, mixed, frigid gravelly silt loam--3 percent
Inclusion 3: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent
Inclusion 4: Pachic Calcixerolls, fine-loamy, carbonatic, frigid gravelly silt loam--2 percent

Map Unit Setting

Landscape position: Hills
Gollaher--Landform: Hills; geomorphic position: summit; shape of slope: convex
Ekim--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Hapgood--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south

Major Component Description

Gollaher Series
Elevation: 6,200 to 7,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Ekim Series
Elevation: 6,200 to 7,900 feet
Precipitation: About 13 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hapgood Series
Elevation: 6,200 to 7,900 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 70 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Ekim: Antelope bitterbrush, bluebunch wheatgrass
Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry
Inclusion 1: Idaho fescue, serviceberry
Inclusion 2: Idaho fescue, basin big sagebrush
Inclusion 3: Idaho fescue, curlleaf mountainmahogany
Inclusion 4: Idaho fescue, antelope bitterbrush

Ecological Site

Gollaher: 025XY057NV
Ekim: 025XY009NV
Hapgood: 025XY004NV
Inclusion 1: 025XY046NV
Inclusion 2: 025XY027NV
Inclusion 3: 028BY043NV
Inclusion 4: 025XY016NV

806--Gollaher-Shalcleav-Vitale association

Composition

Major Components
Gollaher very gravelly loam, 15 to 50 percent slopes--40 percent
Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--35 percent
Vitale very gravelly loam, 30 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Rock outcrop--5 percent
Inclusion 2: Tecomar very gravelly loam, 8 to 30 percent slopes--3 percent
Inclusion 3: Kram very gravelly loam, 15 to 50 percent slopes--1 percent
Inclusion 4: Hapgood very gravelly loam, 30 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Shalcleav--Landform: Mountains; geomorphic position: summit
Vitale--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Gollaher Series
Elevation: 5,900 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Shalcleav Series
Elevation: 5,900 to 7,500 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Vitale Series
Elevation: 5,900 to 7,500 feet
Precipitation: About 14 inches
Air temperature: About 41 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from sandstone

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Vitale: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: None
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 4: Idaho fescue, snowberry

Ecological Site

Gollaher: 025XY057NV
Shalcleav: 025XY057NV
Vitale: 025XY012NV
Inclusion 1: none
Inclusion 2: 024XY031NV
Inclusion 3: 025XY060NV
Inclusion 4: 025XY004NV

807--Gollaher-Belsac association

Composition

Major Components

Gollaher very gravelly loam, 15 to 50 percent slopes--70 percent
Belsac very gravelly loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Gollaher very gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 2: Typic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--4 percent
Inclusion 3: Typic Calcixerolls, loamy-skeletal, carbonatic, frigid very gravelly loam--1 percent
Inclusion 4: Ekim very gravelly loam, 30 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Gollaher--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Belsac--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Mountains; geomorphic position: summit
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: south

Major Component Description

Gollaher Series

Elevation: 6,000 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Belsac Series

Elevation: 6,000 to 8,500 feet
Precipitation: About 16 inches
Air temperature: About 42 degrees
Frost-free season: About 65 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Belsac: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Basin big sagebrush
Inclusion 3: Cusick bluegrass, Idaho fescue, black sagebrush
Inclusion 4: Bluebunch wheatgrass, mountain big sagebrush

Ecological Site

Gollaher: 025XY057NV
Belsac: 025XY004NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY027NV
Inclusion 3: 024XY042NV
Inclusion 4: 025XY009NV

808--Gollaher-Cleavage-Hapgood association

Composition

Major Components

Gollaher very gravelly loam, 15 to 50 percent slopes--40 percent

Cleavage extremely gravelly loam, 15 to 50 percent slopes--30 percent

Hapgood very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Bullump gravelly loam, 15 to 50 percent slopes--5 percent

Inclusion 2: Sumine very gravelly loam, 15 to 50 percent slopes--5 percent

Inclusion 3: Cleavage very gravelly loam, 15 to 50 percent slopes--3 percent

Inclusion 4: Tusel very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains

Gollaher--Landform: Mountains; geomorphic position: backslope

Cleavage--Landform: Mountains; geomorphic position: backslope

Hapgood--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Inclusion 1--Landform: Mountains; geomorphic position: backslope; aspect: south

Inclusion 2--Landform: Mountains; geomorphic position: backslope; aspect: south

Inclusion 3--Landform: Mountains; geomorphic position: summit

Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: plane; aspect: north

Major Component Description

Gollaher Series

Elevation: 7,200 to 8,800 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 50 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Cleavage Series

Elevation: 7,200 to 8,800 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 65 percent gravel

Surface layer texture: Extremely gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from volcanic rocks

Hapgood Series

Elevation: 7,200 to 8,800 feet

Precipitation: About 16 inches

Air temperature: About 42 degrees

Frost-free season: About 70 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Colluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Cleavage: Idaho fescue, Webber ricegrass, black sagebrush, low sagebrush

Hapgood: California brome, Idaho fescue, mountain big sagebrush, snowberry

Inclusion 1: Idaho fescue, antelope bitterbrush, mountain big sagebrush

Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush

Inclusion 3: Idaho fescue, low sagebrush

Inclusion 4: California brome, Idaho fescue, snowberry

Ecological Site

Gollaher: 025XY057NV

Cleavage: 025XY024NV

Hapgood: 025XY004NV

Inclusion 1: 025XY016NV

Inclusion 2: 025XY009NV

Inclusion 3: 025XY017NV

Inclusion 4: 025XY004NV

809--Gollaher-Xica-Shalcleav association

Composition

Major Components

Gollaher very gravelly loam, 30 to 75 percent slopes--30 percent

Xica sandy loam, 30 to 75 percent slopes--30 percent
Shalcleav extremely gravelly silt loam, 30 to 75 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Belsac sandy loam, 30 to 50 percent slopes--10 percent
Inclusion 2: Agort gravelly sandy loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Rubble land--1 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Gollaher--Landform: Hills; geomorphic position: backslope
Xica--Landform: Hills; geomorphic position: backslope
Shalcleav--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Gollaher Series
Elevation: 6,400 to 8,500 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Xica Series
Elevation: 6,400 to 8,500 feet
Precipitation: About 18 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum derived from granitic rocks

Shalcleav Series
Elevation: 6,400 to 8,500 feet
Precipitation: About 16 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Xica: Idaho fescue, black sagebrush, low sagebrush
Shalcleav: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, mountain big sagebrush, snowberry
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 3: None
Inclusion 4: None

Ecological Site

Gollaher: 025XY057NV
Xica: 025XY024NV
Shalcleav: 025XY057NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY007NV
Inclusion 3: none
Inclusion 4: none

810--Igdell-Kleckner association

Composition

Major Components
Igdell very gravelly clay loam, 4 to 15 percent slopes--70 percent
Kleckner gravelly loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Bilbo gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 2: Crooked Creek silty clay loam, 2 to 4 percent slopes, occasionally flooded--5 percent
Inclusion 3: Welch loam, drained, 0 to 2 percent slopes, rarely flooded--3 percent
Inclusion 4: Donna gravelly loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Igdell--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Kleckner--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Inset fans
Inclusion 4--Landform: Fan remnants; geomorphic position: summit; position on slope: lower

Major Component Description

Igdell Series
Elevation: 6,200 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly clay loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kleckner Series
Elevation: 6,200 to 6,400 feet
Precipitation: About 11 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Igdell: Sandberg bluegrass, bluebunch wheatgrass, low sagebrush
Kleckner: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 2: Alpine timothy
Inclusion 3: Basin big sagebrush, basin wildrye
Inclusion 4: Thurber needlegrass, alkali sagebrush

Ecological Site

Igdell: 025XY017NV
Kleckner: 025XY014NV
Inclusion 1: 025XY015NV
Inclusion 2: 025XY006NV
Inclusion 3: 025XY003NV
Inclusion 4: 025XY018NV

820--Cotant-Eboda-Coser association

Composition

Major Components
Cotant very gravelly loam, 4 to 15 percent slopes--40 percent
Eboda loam, 4 to 15 percent slopes--30 percent
Coser gravelly clay loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--5 percent
Inclusion 2: Shalcleav extremely gravelly silt loam, 2 to 4 percent slopes--5 percent
Inclusion 3: Typic Argixerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent

Map Unit Setting

Landscape position: Hills
Cotant--Landform: Hills; geomorphic position: summit; shape of slope: convex
Eboda--Landform: Hills; geomorphic position: summit; shape of slope: concave
Coser--Landform: Hills; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description

Cotant Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Eboda Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 13 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Loam
Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Coser Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Cotant: Idaho fescue, Thurber needlegrass, low sagebrush
Eboda: Idaho fescue, antelope bitterbrush
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 1: Basin big sagebrush, basin wildrye
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Idaho fescue, basin big sagebrush, bluebunch wheatgrass

Ecological Site

Cotant: 025XY017NV
Eboda: 025XY027NV
Coser: 025XY017NV
Inclusion 1: 025XY003NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY027NV

822--Cotant-Chen-Graley association

Composition

Major Components
Cotant gravelly clay loam, 4 to 15 percent slopes--40 percent
Chen very cobbly loam, 8 to 30 percent slopes--25 percent
Graley extremely gravelly loam, 8 to 30 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Lerrow loam, 2 to 8 percent slopes--10 percent
Inclusion 2: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent
Inclusion 3: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Hills
Cotant--Landform: Hills; geomorphic position: backslope; position on slope: lower
Chen--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Graley--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Hills; geomorphic position: summit

Major Component Description

Cotant Series
Elevation: 5,900 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Chen Series
Elevation: 5,900 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent cobbles; 25 percent gravel
Surface layer texture: Very cobbly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Graley Series
Elevation: 5,900 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Cotant: Idaho fescue, bluebunch wheatgrass, low sagebrush
Chen: Idaho fescue, bluebunch wheatgrass, low sagebrush

Graley: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 1: Idaho fescue, basin big sagebrush
Inclusion 2: Utah juniper, cheatgrass
Inclusion 3: None

Ecological Site

Cotant: 025XY017NV
Chen: 025XY017NV
Graley: 025XY007NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY059NV
Inclusion 3: none

830--Onkeyo-Pequop-Sumine association

Composition

Major Components

Onkeyo very gravelly silty clay loam, 4 to 15 percent slopes--35 percent
Pequop gravelly loam, 15 to 50 percent slopes--30 percent
Sumine very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Puett gravelly sandy loam, 15 to 50 percent slopes--10 percent
Inclusion 2: Izar very gravelly loam, 4 to 15 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills
Onkeyo--Landform: Hills; geomorphic position: summit
Pequop--Landform: Hills; geomorphic position: backslope; aspect: north
Sumine--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane; aspect: south

Major Component Description

Onkeyo Series

Elevation: 6,200 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Pequop Series

Elevation: 6,200 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Sumine Series

Elevation: 6,200 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Onkeyo: Bluebunch wheatgrass
Pequop: Antelope bitterbrush, bluebunch wheatgrass
Sumine: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, Wyoming big sagebrush, black sagebrush
Inclusion 2: Indian ricegrass, black sagebrush

Ecological Site

Onkeyo: 025XY042NV
Pequop: 025XY012NV
Sumine: 025XY009NV
Inclusion 1: 025XY025NV
Inclusion 2: 024XY030NV

850--Pamison-Affey-Pamison, moderately steep association

Composition

Major Components

Pamison gravelly loam, 4 to 15 percent slopes--50 percent

Affey gravelly loam, 4 to 15 percent slopes--20 percent
Pamison gravelly loam, 15 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Izar very gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 2: Pachic Argixerolls, fine, montmorillonitic, frigid gravelly silt loam--5 percent
Inclusion 3: Orthidic Durixerolls, loamy, mixed, frigid, shallow gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Pamison--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Affey--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Pamison--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope; aspect: north
Inclusion 3--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Pamison Series

Elevation: 5,600 to 7,600 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks

Affey Series

Elevation: 5,600 to 7,600 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Pamison Series

Elevation: 5,600 to 7,600 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Pamison: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Affey: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass
Pamison: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Antelope bitterbrush
Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush

Ecological Site

Pamison: 024XY031NV
Affey: 025XY014NV
Pamison: 024XY031NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY012NV
Inclusion 3: 024XY031NV

851--Pamison-Amtoft-Coser association

Composition

Major Components

Pamison gravelly loam, 8 to 30 percent slopes--35 percent
Amtoft extremely gravelly loam, 15 to 50 percent slopes--25 percent
Coser gravelly clay loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Arcia silt loam, 8 to 30 percent slopes--8 percent
Inclusion 2: Arva loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Ekim very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Pamison--Landform: Fan remnants
Amtoft--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex

Coser--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south

Major Component Description

Pamison Series
Elevation: 6,000 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks

Amtoft Series
Elevation: 6,000 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Coser Series
Elevation: 6,000 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Pamison: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Amtoft: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Coser: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 1: Idaho fescue, antelope bitterbrush
Inclusion 2: Idaho fescue
Inclusion 3: Antelope bitterbrush, mountain big sagebrush

Ecological Site

Pamison: 024XY031NV
Amtoft: 025XY057NV
Coser: 025XY017NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY009NV

880--Heckison-Xerxes-Shalper association

Composition

Major Components
Heckison silt loam, 2 to 8 percent slopes--35 percent
Xerxes extremely cobbly loamy sand, 15 to 50 percent slopes--25 percent
Shalper very gravelly loam, 4 to 15 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Aridic Argixerolls, fine-loamy, mixed, frigid very gravelly loam--5 percent
Inclusion 2: Pachic Argixerolls, fine-loamy, mixed, frigid gravelly silt loam--5 percent
Inclusion 3: Hundraw gravelly fine sandy loam, 15 to 50 percent slopes--5 percent

Map Unit Setting

Landscape position: Hills
Heckison--Landform: Hills; geomorphic position: summit
Xerxes--Landform: Hills; geomorphic position: backslope
Shalper--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: lower
Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: south

Major Component Description

Heckison Series
Elevation: 6,200 to 6,700 feet

Precipitation: About 12 inches
Air temperature: About 46 degrees
Frost-free season: About 85 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Xerxes Series
Elevation: 6,200 to 6,700 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 20 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly loamy sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Shalper Series
Elevation: 6,200 to 6,700 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Heckison: Big sagebrush, bluebunch wheatgrass
Xerxes: Wyoming big sagebrush
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 2: Idaho fescue
Inclusion 3: Indian ricegrass, Utah juniper, black sagebrush

Ecological Site

Heckison: 025XY014NV
Xerxes: 025XY021NV
Shalper: 025XY021NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY060NV

881--Gochea-Chayson-Pamison association

Composition

Major Components
Gochea loam, 2 to 8 percent slopes--40 percent
Chayson loam, 2 to 8 percent slopes--25 percent
Pamison gravelly loam, 4 to 8 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Pachic Argixerolls, fine-loamy, mixed, frigid gravelly silt loam--8 percent
Inclusion 2: Donna gravelly loam, 2 to 8 percent slopes--7 percent

Map Unit Setting

Landscape position: Fan piedmonts
Gochea--Landform: Fan remnants; geomorphic position: summit
Chayson--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Pamison--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Gochea Series
Elevation: 6,100 to 6,700 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Chayson Series
Elevation: 6,100 to 6,700 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 100 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic rocks, loess and volcanic ash

Pamison Series
Elevation: 6,100 to 6,700 feet

Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Gochea: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass, cheatgrass
Chayson: Basin big sagebrush, bluebunch wheatgrass
Pamison: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue, antelope bitterbrush
Inclusion 2: Alkali sagebrush, bottlebrush squirreltail, low sagebrush

Ecological Site

Gochea: 025XY014NV
Chayson: 025XY027NV
Pamison: 024XY031NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY018NV

930--Orovada, nearly level-Kelk-Orovada association

Composition

Major Components

Orovada loam, 0 to 2 percent slopes--35 percent
Kelk silt loam, 0 to 2 percent slopes--35 percent
Orovada very fine sandy loam, 2 to 8 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Xerollic Camborthids, coarse-loamy, mixed, mesic silt loam--5 percent
Inclusion 2: Dewar gravelly silt loam, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Orovada--Landform: Inset fans
Kelk--Landform: Inset fans
Orovada--Landform: Fan skirts
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Fan skirts

Major Component Description

Orovada Series

Elevation: 5,400 to 5,800 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Kelk Series

Elevation: 5,400 to 5,800 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Orovada Series

Elevation: 5,400 to 5,800 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Very fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Orovada: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Kelk: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Orovada: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Basin big sagebrush, black greasewood
Inclusion 2: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Orovada: 025XY019NV
Kelk: 025XY019NV
Orovada: 025XY019NV
Inclusion 1: 024XY006NV
Inclusion 2: 025XY019NV

931--Orovada-Oupico-Izar association

Composition

Major Components

Orovada loam, 2 to 8 percent slopes--35 percent
Oupico sandy loam, 4 to 15 percent slopes--30 percent

Izar very gravelly loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Bilbo very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Yuko gravelly sandy loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Puett sandy loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Orovada--Landform: Inset fans
Oupico--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Izar--Landform: Hills; geomorphic position: backslope
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Orovada Series

Elevation: 5,500 to 5,700 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Oupico Series

Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Izar Series

Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Orovada: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Oupico: Indian ricegrass, basin big sagebrush, needleandthread
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, cheatgrass
Inclusion 2: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, black sagebrush

Ecological Site

Orovada: 025XY019NV
Oupico: 024XY017NV
Izar: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY015NV
Inclusion 3: 025XY025NV

932--Orovada-Xipe-Ocala association

Composition

Major Components

Orovada loam, 2 to 4 percent slopes--40 percent
Xipe silt loam, 0 to 2 percent slopes, frequently flooded--30 percent
Ocala silt loam, 0 to 2 percent slopes, occasionally flooded--15 percent

Contrasting Inclusions

Inclusion 1: Xipe silt loam, 0 to 2 percent slopes, occasionally flooded--7 percent
Inclusion 2: Welch silt loam, drained, 0 to 2 percent slopes, occasionally flooded--7 percent
Inclusion 3: Welch silt loam, 0 to 2 percent slopes, frequently flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Orovada--Landform: Stream terraces; position on slope: upper
Xipe--Landform: Flood plains
Ocala--Landform: Drainageways; position on slope: lower
Inclusion 1--Landform: Flood plains
Inclusion 2--Landform: Flood plains

Inclusion 3--Landform: Drainageways

Major Component Description

Orovada Series
Elevation: 4,800 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Xipe Series
Elevation: 4,800 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Ocala Series
Elevation: 4,800 to 5,500 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Orovada: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Xipe: Nevada bluegrass, basin wildrye, creeping wildrye, sedge
Ocala: Basin wildrye, black greasewood, inland saltgrass
Inclusion 1: Basin big sagebrush, basin wildrye, black greasewood
Inclusion 2: Basin big sagebrush, basin wildrye
Inclusion 3: Nevada bluegrass

Ecological Site

Orovada: 025XY019NV
Xipe: 025XY001NV
Ocala: 024XY007NV
Inclusion 1: 024XY006NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY005NV

940--Hundraw-Anowell-Peeko association

Composition

Major Components
Hundraw gravelly loam, 15 to 50 percent slopes--50 percent
Anowell gravelly loam, 8 to 30 percent slopes--20 percent
Peeko silt loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Izar very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Ackett very gravelly clay loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Bilbo very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 4: Xerollic Camborthids, coarse-loamy, mixed, mesic silt loam--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Hundraw--Landform: Pediments; geomorphic position: backslope; shape of slope: plane
Anowell--Landform: Pediments; geomorphic position: backslope; aspect: north
Peeko--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Inset fans

Major Component Description

Hundraw Series
Elevation: 5,800 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Anowell Series
Elevation: 5,800 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees

Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Peeko Series
Elevation: 5,800 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation
Hundraw: Indian ricegrass, black sagebrush
Anowell: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass
Inclusion 4: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush

Ecological Site
Hundraw: 024XY030NV
Anowell: 024XY031NV
Peeko: 024XY030NV
Inclusion 1: 024XY030NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY015NV
Inclusion 4: 025XY019NV

941--Hundraw-Hundraw, eroded association

Composition
Major Components
Hundraw gravelly loam, 4 to 30 percent slopes--65 percent
Hundraw gravelly fine sandy loam, 8 to 30 percent slopes, eroded--20 percent
Contrasting Inclusions
Inclusion 1: Cobre silt loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Xerollic Haplargids, fine-loamy, mixed, mesic gravelly silt loam--5 percent
Inclusion 3: Gumble gravelly sandy loam, 4 to 15 percent slopes--5 percent

Map Unit Setting
Landscape position: Hills
Hundraw--Landform: Hills; geomorphic position: summit
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower

Major Component Description
Hundraw Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Hundraw Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation
Hundraw: Indian ricegrass, Thurber needlegrass, black sagebrush
Hundraw: Indian ricegrass, black sagebrush
Inclusion 1: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush

Ecological Site
Hundraw: 024XY030NV
Hundraw: 025XY060NV

Inclusion 1: 025XY019NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY019NV

942--Hundraw-Cobre-Anowell association

Composition

Major Components

Hundraw gravelly fine sandy loam, 8 to 30 percent slopes, eroded--50 percent
Cobre silt loam, 4 to 15 percent slopes--20 percent
Anowell gravelly loam, 8 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Yuko gravelly loam, 4 to 15 percent slopes--7 percent
Inclusion 2: Xerollic Calciorthids, loamy-skeletal, mixed, mesic very gravelly loam--5 percent
Inclusion 3: Hundraw gravelly loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Hills
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Cobre--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Anowell--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south

Major Component Description

Hundraw Series

Elevation: 5,600 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Cobre Series

Elevation: 5,600 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Anowell Series

Elevation: 5,600 to 6,300 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Hundraw: Indian ricegrass, black sagebrush
Cobre: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Anowell: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush, cheatgrass
Inclusion 3: Indian ricegrass, black sagebrush

Ecological Site

Hundraw: 025XY060NV
Cobre: 025XY019NV
Anowell: 024XY031NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY014NV
Inclusion 3: 024XY030NV

943--Hundraw-Puett-Cobre association

Composition

Major Components

Hundraw gravelly fine sandy loam, 15 to 50 percent slopes, eroded--35 percent
Puett gravelly fine sandy loam, 4 to 15 percent slopes, eroded--30 percent
Cobre silt loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Aridic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--10 percent

Inclusion 2: Aridic Haploxerolls, coarse-loamy, mixed, mesic very gravelly loam--3 percent
Inclusion 3: Jackpot sandy loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Puett--Landform: Hills; geomorphic position: summit
Cobre--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 3--Landform: Drainageways

Major Component Description

Hundraw Series
Elevation: 5,600 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Puett Series
Elevation: 5,600 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Cobre Series
Elevation: 5,600 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Hundraw: Indian ricegrass, black sagebrush
Puett: Indian ricegrass, Utah juniper, Wyoming big sagebrush
Cobre: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Sandberg bluegrass, Thurber needlegrass, big sagebrush
Inclusion 3: Wyoming big sagebrush, needleandthread

Ecological Site

Hundraw: 025XY060NV
Puett: 025XY059NV
Cobre: 025XY019NV
Inclusion 1: 024XY031NV
Inclusion 2: 025XY014NV
Inclusion 3: 024XY017NV

944--Hundraw, eroded-Peeko-Hundraw association

Composition

Major Components
Hundraw gravelly fine sandy loam, 15 to 50 percent slopes, eroded--35 percent
Peeko silt loam, 4 to 15 percent slopes--30 percent
Hundraw gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Puett gravelly fine sandy loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Aridic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 3: Xerollic Camborthids, loamy, mixed, mesic, shallow gravelly loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Hundraw--Landform: Pediments; geomorphic position: backslope; shape of slope: concave
Peeko--Landform: Fan remnants; geomorphic position: summit
Hundraw--Landform: Pediments; geomorphic position: backslope; shape of slope: convex

Inclusion 1--Landform: Pediments; geomorphic position: backslope; position on slope: upper; aspect: north
Inclusion 2--Landform: Pediments; geomorphic position: backslope; position on slope: lower; aspect: north
Inclusion 3--Landform: Pediments; geomorphic position: summit; shape of slope: concave

Major Component Description

Hundraw Series
Elevation: 5,400 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Peeko Series
Elevation: 5,400 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hundraw Series
Elevation: 5,400 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation

Hundraw: Indian ricegrass, black sagebrush
Peeko: Indian ricegrass, Thurber needlegrass, black sagebrush
Hundraw: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Utah juniper, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Hundraw: 025XY060NV
Peeko: 024XY030NV
Hundraw: 024XY030NV
Inclusion 1: 025XY059NV
Inclusion 2: 024XY031NV
Inclusion 3: 025XY019NV

945--Hundraw-Izar-Izar, steep association

Composition

Major Components
Hundraw gravelly fine sandy loam, 15 to 50 percent slopes, eroded--45 percent
Izar very gravelly loam, 4 to 15 percent slopes--20 percent
Izar very gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, loamy, mixed, mesic, shallow very gravelly loam--10 percent
Inclusion 2: Kelk silt loam, 2 to 8 percent slopes--3 percent
Inclusion 3: Yuko very gravelly loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Izar--Landform: Hills; geomorphic position: summit
Izar--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Hills; geomorphic position: summit; position on slope: lower; shape of slope: concave

Major Component Description

Hundraw Series
Elevation: 5,400 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium

derived from sedimentary rocks, loess and volcanic ash

Izar Series
Elevation: 5,400 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Izar Series
Elevation: 5,400 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 2: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, cheatgrass

Ecological Site

Hundraw: 025XY060NV
Izar: 024XY030NV
Izar: 024XY030NV
Inclusion 1: 024XY031NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

946--Hundraw-Cobre association

Composition

Major Components
Hundraw gravelly loam, 15 to 50 percent slopes--65 percent
Cobre silt loam, 4 to 15 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Puett gravelly silty clay loam, 15 to 30 percent slopes--4 percent
Inclusion 2: Yuko loam, 15 to 50 percent slopes--3 percent
Inclusion 3: Peeko silt loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Hundraw--Landform: Hills; geomorphic position: backslope
Cobre--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Hundraw Series
Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Cobre Series
Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Dominant Present Vegetation

Hundraw: Indian ricegrass, Thurber needlegrass, black sagebrush
Cobre: Thurber needlegrass, Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Inclusion 1: Indian ricegrass, Wyoming big sagebrush
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Indian ricegrass, black sagebrush

Ecological Site

Hundraw: 024XY030NV
Cobre: 025XY019NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY015NV
Inclusion 3: 024XY030NV

947--Hundraw-Kelk-Hundraw, eroded association

Composition

Major Components

Hundraw gravelly fine sandy loam, 15 to 30 percent slopes, eroded--35 percent
Kelk silt loam, 2 to 8 percent slopes--30 percent
Hundraw gravelly fine sandy loam, 4 to 15 percent slopes, eroded--20 percent

Contrasting Inclusions

Inclusion 1: Hundraw gravelly very fine sandy loam, 15 to 30 percent slopes--10 percent
Inclusion 2: Enko fine sandy loam, 4 to 15 percent slopes--3 percent
Inclusion 3: Xeric Torriorthents, coarse-loamy, mixed, nonacid, mesic sandy loam--3 percent
Inclusion 4: Cumulic Endoaquolls, fine-loamy, mixed, frigid silt loam--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Hundraw--Landform: Hills; geomorphic position: backslope
Kelk--Landform: Inset fans
Hundraw--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Inset fans; postion on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 4--Landform: Drainageways

Major Component Description

Hundraw Series

Elevation: 5,300 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Kelk Series

Elevation: 5,300 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hundraw Series

Elevation: 5,300 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation

Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Kelk: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 3: Indian ricegrass, black sagebrush
Inclusion 4: Basin wildrye

Ecological Site

Hundraw: 025XY060NV
Kelk: 025XY019NV
Hundraw: 025XY060NV
Inclusion 1: 024XY030NV
Inclusion 2: 025SY019NV
Inclusion 3: 024XY030NV
Inclusion 4: 025XY003NV

948--Hundraw-Puett-Trinidad association

Composition

Major Components

Hundraw gravelly fine sandy loam, 15 to 50 percent slopes, eroded--30 percent
Puett gravelly fine sandy loam, 4 to 15 percent slopes, eroded--30 percent
Trinidad gravelly silt loam, 15 to 50 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Durargidic Argixerolls, coarse-loamy, mixed, mesic gravelly loam--7 percent
Inclusion 2: Aridic Duric Haploxerolls, coarse-loamy, mixed, mesic very gravelly loam--6 percent
Inclusion 3: Aridic Haploxerolls, loamy, mixed, mesic, shallow very gravelly loam--1 percent
Inclusion 4: Puett gravelly sandy loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Hundraw--Landform: Hills; geomorphic position: backslope; aspect: south
Puett--Landform: Hills; geomorphic position: summit
Trinidad--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 4--Landform: Fan remnants; geomorphic position: backslope; aspect: south

Major Component Description

Hundraw Series

Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Puett Series

Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Trinidad Series

Elevation: 5,600 to 6,400 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Dominant Present Vegetation

Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Puett: Indian ricegrass, Utah juniper, Wyoming big sagebrush
Trinidad: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Sandberg bluegrass, Wyoming big sagebrush, needleandthread
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Wyoming big sagebrush, black sagebrush

Ecological Site

Hundraw: 025XY060NV
Puett: 025XY059NV
Trinidad: 024XY031NV
Inclusion 1: 024XY017NV
Inclusion 2: 024XY031NV
Inclusion 3: 024XY031NV
Inclusion 4: 025XY025NV

949--Hundraw-Quopant-Shalper association

Composition

Major Components

Hundraw gravelly fine sandy loam, 15 to 50 percent slopes, eroded--40 percent
Quopant very gravelly sandy loam, 15 to 50 percent slopes--30 percent
Shalper very gravelly loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, coarse-loamy, mixed, frigid very gravelly loam--5 percent
Inclusion 2: Puett gravelly fine sandy loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Eboda loam, 30 to 50 percent slopes--5 percent

Map Unit Setting
Landscape position: Hills and intermontane basins
Hundraw--Landform: Hills; geomorphic position: backslope; aspect: south
Quopant--Landform: Hills; geomorphic position: backslope; aspect: north
Shalper--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: north

Major Component Description
Hundraw Series
Elevation: 5,600 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Quopant Series
Elevation: 5,600 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Shalper Series
Elevation: 5,600 to 6,400 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation
Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Quopant: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, big sagebrush
Inclusion 2: Utah juniper, Wyoming big sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush, mountain big sagebrush

Ecological Site
Hundraw: 025XY060NV
Quopant: 024XY031NV
Shalper: 025XY021NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY059NV
Inclusion 3: 025XY012NV

961--Trinidad, steep-Trinidad-Izod association

Composition
Major Components
Trinidad gravelly silt loam, 15 to 50 percent slopes--40 percent
Trinidad gravelly silt loam, 4 to 15 percent slopes--25 percent
Izod very gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid very gravelly loam--10 percent
Inclusion 2: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--3 percent
Inclusion 3: Izod extremely gravelly silt loam, 30 to 75 percent slopes--2 percent

Map Unit Setting
Landscape position: Hills and intermontane basins
Trinidad--Landform: Hills; geomorphic position: backslope; aspect: north
Trinidad--Landform: Hills; geomorphic position: summit
Izod--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south

Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south

Major Component Description

Trinidad Series
Elevation: 5,800 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Trinidad Series
Elevation: 5,800 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Izod Series
Elevation: 5,800 to 7,200 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Trinidad: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Trinidad: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Izod: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Sandberg bluegrass, big sagebrush, bottlebrush squirreltail
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Sandberg bluegrass, black sagebrush

Ecological Site

Trinidad: 024XY031NV
Trinidad: 024XY031NV
Izod: 024XY030NV
Inclusion 1: 025XY014NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY026NV

970--Hunewill-Bilbo-Devilsgait association

Composition

Major Components
Hunewill gravelly loam, 2 to 4 percent slopes--40 percent
Bilbo very gravelly loam, 2 to 8 percent slopes--30 percent
Devilsgait silt loam, drained, 2 to 4 percent slopes, rarely flooded--15 percent
Contrasting Inclusions
Inclusion 1: Kelk silt loam, 2 to 8 percent slopes--10 percent
Inclusion 2: Durixerollic Camborthids, sandy-skeletal, mixed, mesic gravelly loam--3 percent
Inclusion 3: Sonoma silt loam, drained, 0 to 2 percent slopes--2 percent

Map Unit Setting

Landscape position: Intermontane basins
Hunewill--Landform: Inset fans; position on slope: lower
Bilbo--Landform: Fan remnants; position on slope: upper
Devilsgait--Landform: Flood plains
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Inset fans

Major Component Description

Hunewill Series
Elevation: 5,500 to 6,500 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Bilbo Series
Elevation: 5,500 to 6,500 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Devilsgait Series
Elevation: 5,500 to 6,500 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 100 days
Surface layer texture: Silt loam
Drainage class: Very poorly drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Hunewill: Wyoming big sagebrush, bluebunch wheatgrass, cheatgrass, phlox
Bilbo: Wyoming big sagebrush, bluebunch wheatgrass, cheatgrass, phlox
Devilsgait: Basin big sagebrush, basin wildrye
Inclusion 1: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Black greasewood, inland saltgrass

Ecological Site

Hunewill: 025XY019NV
Bilbo: 025XY019NV
Devilsgait: 025XY003NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY007NV

980--Boso-Dewar association

Composition

Major Components
Boso loam, 8 to 15 percent slopes--55 percent
Dewar gravelly silt loam, 2 to 8 percent slopes--30 percent
Contrasting Inclusions
Inclusion 1: Hunnton gravelly loam, 2 to 8 percent slopes--9 percent
Inclusion 2: Aridic Durixerolls, loamy-skeletal, mixed, frigid very gravelly loam--4 percent
Inclusion 3: Welch silt loam, drained, 2 to 8 percent slopes, rarely flooded--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Boso--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Dewar--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: plane
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: concave
Inclusion 3--Landform: Drainageways

Major Component Description

Boso Series
Elevation: 6,200 to 6,600 feet
Precipitation: About 10 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and dolomite

Dewar Series
Elevation: 6,200 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Boso: Antelope bitterbrush, bluebunch wheatgrass
Dewar: Sandberg bluegrass, Wyoming big sagebrush, phlox
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Nevada bluegrass, basin big sagebrush

Ecological Site

Boso: 025XY012NV
Dewar: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY003NV

990--Bluehill-Tomsherry-Xerxes association

Composition

Major Components

Bluehill fine sandy loam, 4 to 15 percent slopes--40 percent
Tomsherry fine sandy loam, 4 to 15 percent slopes--30 percent
Xerxes extremely cobbly loamy sand, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Lithic Mollic Haploxeralfs, loamy-skeletal, mixed, frigid very gravelly loam--5 percent
Inclusion 2: Aridic Argixerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 3: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), frigid, shallow gravelly silt loam--3 percent
Inclusion 4: Hundraw gravelly fine sandy loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Plateaus
Bluehill--Landform: Plateaus; geomorphic position: backslope; aspect: south
Tomsherry--Landform: Plateaus; geomorphic position: backslope; aspect: north
Xerxes--Landform: Plateaus; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Plateaus; geomorphic position: summit; position on slope: upper
Inclusion 2--Landform: Plateaus; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Plateaus; geomorphic position: backslope; shape of slope: plane
Inclusion 4--Landform: Plateaus; geomorphic position: backslope; shape of slope: convex

Major Component Description

Bluehill Series

Elevation: 5,200 to 5,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 105 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and alluvium derived from volcanic ash

Tomsherry Series

Elevation: 5,200 to 5,400 feet
Precipitation: About 12 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from volcanic ash

Xerxes Series

Elevation: 5,200 to 5,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly loamy sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Dominant Present Vegetation

Bluehill: Indian ricegrass, Wyoming big sagebrush, needleandthread
Tomsherry: Indian ricegrass, Wyoming big sagebrush, needleandthread
Xerxes: Wyoming big sagebrush, cheatgrass
Inclusion 1: Utah juniper, big sagebrush
Inclusion 2: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 3: Utah juniper, black sagebrush
Inclusion 4: Utah juniper, black sagebrush

Ecological Site

Bluehill: 025XY066NV
Tomsherry: 025XY066NV
Xerxes: 025XY021NV
Inclusion 1: 025XY059NV
Inclusion 2: 025XY066NV
Inclusion 3: 025XY060NV
Inclusion 4: 025XY060NV

1010--Agassiz-Croesus-Rubble land association

Composition

Major Components

Agassiz very gravelly loam, 30 to 70 percent slopes--40 percent

Croesus extremely stony loam, 30 to 75 percent slopes--25 percent

Rubble land fragmental material, 30 to 75 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Hackwood cobbly loam, 30 to 50 percent slopes--5 percent

Inclusion 2: Rock outcrop--5 percent

Inclusion 3: Belsac gravelly loam, 15 to 50 percent slopes--3 percent

Inclusion 4: Onkeyo very gravelly loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains

Agassiz--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south

Croesus--Landform: Mountains; geomorphic position: backslope; aspect: north

Rubble land--Landform: Mountains; geomorphic position: backslope

Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Inclusion 2--Landform: Mountains; geomorphic position: backslope

Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave

Inclusion 4--Landform: Mountains; geomorphic position: summit; shape of slope: plane

Major Component Description

Agassiz Series

Elevation: 6,900 to 8,700 feet

Precipitation: About 16 inches

Air temperature: About 42 degrees

Frost-free season: About 65 days

Surface rock fragments: 10 percent cobbles; 55 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum derived from limestone and dolomite

Croesus Series

Elevation: 6,900 to 8,700 feet

Precipitation: About 18 inches

Air temperature: About 42 degrees

Frost-free season: About 70 days

Surface rock fragments: 15 percent cobbles; 40 percent gravel

Surface layer texture: Extremely stony loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Rubble land Miscellaneous Area

Elevation: 6,900 to 8,700 feet

Surface layer texture: Fragmental material

Drainage class: Excessively drained

Dominant Present Vegetation

Agassiz: Thurber needlegrass, bluebunch wheatgrass, curlleaf mountainmahogany

Croesus: Idaho fescue, curlleaf mountainmahogany, snowberry

Inclusion 1: Mountain brome, quaking aspen

Inclusion 2: None

Inclusion 3: Idaho fescue, mountain big sagebrush, snowberry

Inclusion 4: Idaho fescue, snowberry

Ecological Site

Agassiz: 028BY042NV

Croesus: 028BY042NV

Rubble land: None

Inclusion 1: 025XY065NV

Inclusion 2: none

Inclusion 3: 025XY004NV

Inclusion 4: 025XY042NV

1040--Gravier-Shafter-Toano association

Composition

Major Components

Gravier gravelly loam, 2 to 8 percent slopes--35 percent

Shafter gravelly loam, 2 to 8 percent slopes--30 percent

Toano silt loam, gravelly substratum, 2 to 8 percent slopes, occasionally flooded--20 percent

Contrasting Inclusions

Inclusion 1: Pibler very gravelly loam, 2 to 8 percent slopes--7 percent

Inclusion 2: Loray gravelly sandy loam, 2 to 8 percent slopes--5 percent

Inclusion 3: Wiffo gravelly loam, 2 to 8 percent slopes--3 percent

Map Unit Setting

Landscape position: Intermontane basins
Gravier--Landform: Fan skirts
Shafter--Landform: Fan remnants; shape of slope: plane
Toano--Landform: Fan skirts; position on slope: lower; shape of slope: plane
Inclusion 1--Landform: Fan remnants; position on slope: lower
Inclusion 2--Landform: Spits
Inclusion 3--Landform: Inset fans

Major Component Description

Gravier Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Shafter Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and dolomite, loess and volcanic ash

Toano Series
Elevation: 4,800 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Gravier: Indian ricegrass, shadscale, winterfat
Shafter: Indian ricegrass, winterfat
Toano: Indian ricegrass, winterfat
Inclusion 1: Black sagebrush, needleandthread
Inclusion 2: Shadscale
Inclusion 3: Wyoming big sagebrush, bottlebrush squirreltail

Ecological Site

Gravier: 028AY002NV
Shafter: 028AY002NV
Toano: 028BY018NV
Inclusion 1: 028BY011NV
Inclusion 2: 028BY017NV
Inclusion 3: 028BY010NV

1041--Gravier-Wiffo association

Composition

Major Components
Gravier gravelly loam, 2 to 8 percent slopes--50 percent
Wiffo very gravelly loam, 2 to 8 percent slopes--40 percent
Contrasting Inclusions
Inclusion 1: Wiffo Variant very stony loam, 4 to 15 percent slopes--4 percent
Inclusion 2: Pibler very gravelly fine sandy loam, 2 to 8 percent slopes--3 percent
Inclusion 3: Wiffo stony loam, 2 to 8 percent slopes--2 percent
Inclusion 4: Gravier stony loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Gravier--Landform: Fan skirts
Wiffo--Landform: Fan skirts
Inclusion 1--Landform: Fan skirts; position on slope: upper
Inclusion 2--Landform: Fan remnants; position on slope: lower
Inclusion 3--Landform: Fan skirts
Inclusion 4--Landform: Fan skirts; position on slope: lower

Major Component Description

Gravier Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Wiffo Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 8 inches

Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 1 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from sedimentary rocks

Dominant Present Vegetation

Gravier: Indian ricegrass, shadscale, winterfat
Wiffo: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 1: Bottlebrush squirreltail, spiny hopsage
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush, needleandthread
Inclusion 4: Indian ricegrass, shadscale, winterfat

Ecological Site

Gravier: 028AY002NV
Wiffo: 028BY010NV
Inclusion 1: 028BY052NV
Inclusion 2: 028BY011NV
Inclusion 3: 028BY010NV
Inclusion 4: 028BY013NV

1042--Gravier-Pibler association

Composition

Major Components

Gravier very gravelly sandy loam, 2 to 8 percent slopes--60 percent
Pibler very gravelly fine sandy loam, 2 to 8 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Izar very gravelly loam, 4 to 15 percent slopes--6 percent
Inclusion 2: Wiffo very gravelly sandy loam, 2 to 8 percent slopes, occasionally flooded--5 percent
Inclusion 3: Holborn very stony loam, 4 to 15 percent slopes--4 percent

Map Unit Setting

Landscape position: Intermontane basins
Gravier--Landform: Fan skirts
Pibler--Landform: Fan remnants; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 3--Landform: Inset fans; position on slope: lower

Major Component Description

Gravier Series

Elevation: 5,200 to 5,600 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Pibler Series

Elevation: 5,200 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Gravier: Indian ricegrass, shadscale, winterfat
Pibler: Indian ricegrass, black sagebrush, needleandthread
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Wyoming big sagebrush, spiny hopsage
Inclusion 3: Black sagebrush, bluebunch wheatgrass

Ecological Site

Gravier: 028AY003NV
Pibler: 028BY011NV
Inclusion 1: 028BY011NV
Inclusion 2: 028BY052NV
Inclusion 3: 028BY006NV

1043--Gravier-Luap association

Composition

Major Components

Gravier gravelly loam, 2 to 8 percent slopes--55 percent
Luap very gravelly fine sandy loam, 2 to 4 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Typic Paleorthids, loamy-skeletal, carbonatic, mesic very gravelly loam--5 percent

Inclusion 2: Wiffo very gravelly sandy loam, 2 to 4 percent slopes, occasionally flooded--5 percent
Inclusion 3: Loray very gravelly sandy loam, 2 to 4 percent slopes--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Gravier--Landform: Fan skirts
Luap--Landform: Spits
Inclusion 1--Landform: Spits; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Spits; geomorphic position: summit; shape of slope: convex

Major Component Description

Gravier Series
Elevation: 4,800 to 5,600 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Luap Series
Elevation: 4,800 to 5,600 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 45 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Gravier: Indian ricegrass, shadscale, winterfat
Luap: Indian ricegrass, bud sagebrush, shadscale
Inclusion 1: Indian ricegrass, bud sagebrush, shadscale
Inclusion 2: Sandberg bluegrass, Wyoming big sagebrush, spiny hopsage
Inclusion 3: Indian ricegrass, bud sagebrush, shadscale

Ecological Site

Gravier: 028AY002NV
Luap: 028BY017NV
Inclusion 1: 028BY017NV
Inclusion 2: 028BY052NV
Inclusion 3: 028BY017NV

1050--Pibler-Pibler, strongly sloping-Izar association

Composition

Major Components
Pibler very gravelly fine sandy loam, 2 to 8 percent slopes--40 percent
Pibler gravelly silt loam, 8 to 15 percent slopes--30 percent
Izar very gravelly loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Holborn gravelly clay loam, 8 to 15 percent slopes--5 percent
Inclusion 2: Gravier gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Wiffo very gravelly loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Jericho gravelly sandy loam, 2 to 4 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Pibler--Landform: Fan remnants; geomorphic position: summit
Pibler--Landform: Fan remnants; geomorphic position: backslope
Izar--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Pediments; geomorphic position: summit
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Inset fans
Inclusion 4--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane

Major Component Description

Pibler Series
Elevation: 5,100 to 5,400 feet
Precipitation: About 9 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Pibler Series
Elevation: 5,100 to 5,400 feet
Precipitation: About 9 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel

Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Izar Series
Elevation: 5,100 to 5,400 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Pibler: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Pibler: Indian ricegrass, black sagebrush, needleandthread
Izar: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Indian ricegrass, bluegrass, winterfat
Inclusion 3: Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 4: Wyoming big sagebrush, bottlebrush squirreltail

Ecological Site

Pibler: 028BY011NV
Pibler: 028AY004NV
Izar: 028BY011NV
Inclusion 1: 028BY006NV
Inclusion 2: 028BY013NV
Inclusion 3: 028BY010NV
Inclusion 4: 028BY010NV

1051--Pibler, bedrock substratum-Pibler association

Composition

Major Components
Pibler very gravelly loam, bedrock substratum, 4 to 15 percent slopes--50 percent
Pibler very gravelly fine sandy loam, 2 to 8 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Xerollic Paleorthids, loamy-skeletal, mixed, mesic gravelly silt loam--7 percent
Inclusion 2: Xerollic Durorthids, loamy-skeletal, mixed, mesic gravelly silt loam--4 percent
Inclusion 3: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow gravelly silt loam, 4 to 15 percent slopes--4 percent

Map Unit Setting

Landscape position: Fan piedmonts
Pibler--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Pibler--Landform: Fan remnants; geomorphic position: summit; position on slope: lower
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 2--Landform: Fan skirts
Inclusion 3--Landform: Pediments; geomorphic position: backslope

Major Component Description

Pibler Series
Elevation: 5,200 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Pibler Series
Elevation: 5,200 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Pibler: Indian ricegrass, black sagebrush, needleandthread
Pibler: Indian ricegrass, black sagebrush, needleandthread
Inclusion 1: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Inclusion 2: Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 3: Utah juniper, black sagebrush, singleleaf pinyon

Ecological Site

Pibler: 028BY011NV
Pibler: 028BY011NV
Inclusion 1: 028BY011NV
Inclusion 2: 028BY052NV
Inclusion 3: 028BY060NV

1052--Pibler-Gravier association

Composition

Major Components

Pibler very gravelly fine sandy loam, 2 to 15 percent slopes--60 percent
Gravier gravelly loam, 2 to 8 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Wiffo very gravelly loam, 2 to 8 percent slopes--7 percent
Inclusion 2: Shafter silt loam, 2 to 8 percent slopes--4 percent
Inclusion 3: Jericho gravelly sandy loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Izar very gravelly sandy loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Pibler--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Gravier--Landform: Inset fans
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan skirts
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 4--Landform: Pediments; geomorphic position: backslope

Major Component Description

Pibler Series

Elevation: 5,100 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Gravier Series

Elevation: 5,100 to 5,600 feet
Precipitation: About 6 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Pibler: Indian ricegrass, black sagebrush, bluegrass
Gravier: Indian ricegrass, shadscale, winterfat
Inclusion 1: Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 2: Indian ricegrass, winterfat
Inclusion 3: Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 4: Indian ricegrass, black sagebrush

Ecological Site

Pibler: 028BY011NV
Gravier: 028AY002NV
Inclusion 1: 028BY010NV
Inclusion 2: 028BY013NV
Inclusion 3: 028BY010NV
Inclusion 4: 028BY011NV

1054--Pibler-Wiffo association

Composition

Major Components

Pibler very gravelly fine sandy loam, 2 to 15 percent slopes--50 percent
Wiffo very gravelly loam, 2 to 8 percent slopes--40 percent

Contrasting Inclusions

Inclusion 1: Kram very gravelly loam, 8 to 30 percent slopes--4 percent
Inclusion 2: Izar very gravelly loam, 8 to 30 percent slopes--4 percent
Inclusion 3: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly sandy loam--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Pibler--Landform: Fan remnants; geomorphic position: summit
Wiffo--Landform: Fan skirts
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope
Inclusion 3--Landform: Inset fans

Major Component Description

Pibler Series
Elevation: 4,900 to 5,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Wiffo Series
Elevation: 4,900 to 5,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 1 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Pibler: Indian ricegrass, black sagebrush, needleandthread
Wiffo: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Bud sagebrush, shadscale

Ecological Site

Pibler: 028BY011NV
Wiffo: 028BY011NV
Inclusion 1: 025XY060NV
Inclusion 2: 028BY011NV
Inclusion 3: 028BY017NV

1055--Pibler-Gravier-Izar association

Composition

Major Components
Pibler very gravelly fine sandy loam, 4 to 15 percent slopes--40 percent
Gravier very gravelly sandy loam, 8 to 30 percent slopes--25 percent
Izar very gravelly loam, 8 to 30 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly silt loam--5 percent
Inclusion 2: Izar very gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Wiffo very gravelly loam, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Pibler--Landform: Fan remnants; geomorphic position: summit
Gravier--Landform: Fan remnants; geomorphic position: backslope; aspect: south
Izar--Landform: Pediments; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Pediments; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Inset fans

Major Component Description

Pibler Series
Elevation: 5,200 to 5,700 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Gravier Series
Elevation: 5,200 to 5,700 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Izar Series
Elevation: 5,200 to 5,700 feet
Precipitation: About 8 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Pibler: Indian ricegrass, black sagebrush, needleandthread
Gravier: Indian ricegrass, shadscale, winterfat
Izar: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush, bottlebrush squirreltail

Ecological Site

Pibler: 028BY011NV
Gravier: 025XY004NV
Izar: 028BY011NV
Inclusion 1: 028BY011NV
Inclusion 2: 028BY011NV
Inclusion 3: 028BY010NV

1056--Pibler-Valmy association

Composition

Major Components

Pibler very gravelly loam, 8 to 15 percent slopes--50 percent
Valmy fine sandy loam, 2 to 8 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly silt loam--8 percent
Inclusion 2: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly silt loam--5 percent
Inclusion 3: Ocala silt loam, strongly saline-alkali, 0 to 2 percent slopes, occasionally flooded--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Pibler--Landform: Fan remnants; geomorphic position: summit
Valmy--Landform: Fan skirts
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Alluvial flats

Major Component Description

Pibler Series

Elevation: 5,200 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Valmy Series

Elevation: 5,200 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 50 degrees
Frost-free season: About 105 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Pibler: Indian ricegrass, black sagebrush, bottlebrush squirreltail
Valmy: Wyoming big sagebrush, black greasewood, bottlebrush squirreltail
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Bud sagebrush, shadscale
Inclusion 3: Black greasewood, inland saltgrass

Ecological Site

Pibler: 024XY030NV
Valmy: 024XY022NV
Inclusion 1: 024XY030NV
Inclusion 2: 024XY002NV
Inclusion 3: 024XY008NV

1060--Kzin-Holborn-Kzin, eroded association

Composition

Major Components

Kzin very gravelly loam, 8 to 30 percent slopes--35 percent
Holborn gravelly loam, 4 to 15 percent slopes--30 percent
Kzin very gravelly sandy loam, 30 to 50 percent slopes, eroded--20 percent

Contrasting Inclusions

Inclusion 1: Pibler gravelly silt loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Cumulic Haploxerolls, fine-loamy, mixed, frigid silt loam--4 percent
Inclusion 3: Anowell gravelly loam, 30 to 50 percent slopes--3 percent
Inclusion 4: Aridic Argixerolls, fine, montmorillonitic, mesic very gravelly loam--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Kzin--Landform: Pediments; geomorphic position: backslope
Holborn--Landform: Pediments; geomorphic position: summit
Kzin--Landform: Pediments; geomorphic position: backslope
Inclusion 1--Landform: Fan remnants; geomorphic position: summit
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Pediments; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Pediments; geomorphic position: backslope; aspect: north

Major Component Description

Kzin Series
Elevation: 5,300 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Holborn Series
Elevation: 5,300 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Kzin Series
Elevation: 5,300 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Dominant Present Vegetation

Kzin: Utah juniper, black sagebrush, singleleaf pinyon
Holborn: Indian ricegrass, black sagebrush
Kzin: Utah juniper, black sagebrush, singleleaf pinyon
Inclusion 1: Black sagebrush, bluebunch wheatgrass
Inclusion 2: Basin wildrye, mountain big sagebrush
Inclusion 3: Black sagebrush, bluebunch wheatgrass
Inclusion 4: Wyoming big sagebrush, bottlebrush squirreltail

Ecological Site

Kzin: 028BY060NV
Holborn: 028AY004NV
Kzin: 028BY060NV
Inclusion 1: 028BY004NV
Inclusion 2: 028BY024NV
Inclusion 3: 024XY031NV
Inclusion 4: 028BY007NV

1062--Kzin-Cobre-Jackpot association

Composition

Major Components
Kzin very gravelly loam, 15 to 50 percent slopes--45 percent
Cobre silt loam, 4 to 15 percent slopes--25 percent
Jackpot sandy loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--5 percent
Inclusion 2: Hundraw gravelly fine sandy loam, 8 to 30 percent slopes--5 percent
Inclusion 3: Izar very gravelly loam--4 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Kzin--Landform: Pediments; geomorphic position: backslope
Cobre--Landform: Pediments; geomorphic position: backslope; position on slope: lower
Jackpot--Landform: Pediments; geomorphic position: backslope; position on slope: upper
Inclusion 1--Landform: Pediments; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Pediments; geomorphic

position: backslope; position on slope: lower
Inclusion 3--Landform: Pediments; geomorphic position: summit
Inclusion 4--Landform: Pediments; geomorphic position: summit

Major Component Description

Kzin Series
Elevation: 5,600 to 6,200 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Cobre Series
Elevation: 5,600 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Jackpot Series
Elevation: 5,600 to 6,200 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Kzin: Utah juniper, black sagebrush, singleleaf pinyon
Cobre: Indian ricegrass, Wyoming big sagebrush, needleandthread
Jackpot: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 1: Bottlebrush squirreltail, fourwing saltbush, spiny hopsage
Inclusion 2: Black sagebrush, juniper
Inclusion 3: Indian ricegrass, black sagebrush
Inclusion 4: None

Ecological Site

Kzin: 028BY060NV
Cobre: 028BY010NV
Jackpot: 024XY017NV
Inclusion 1: 028BY078NV
Inclusion 2: 025XY060NV
Inclusion 3: 028BY011NV
Inclusion 4: none

1064--Kzin-Golsum-Golsum, eroded association

Composition

Major Components
Kzin very gravelly loam, 15 to 50 percent slopes--40 percent
Golsum very gravelly clay loam, 4 to 15 percent slopes--25 percent
Golsum very gravelly clay loam, 4 to 15 percent slopes, eroded--20 percent
Contrasting Inclusions
Inclusion 1: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid, shallow gravelly silt loam--5 percent
Inclusion 2: Aridic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--5 percent
Inclusion 3: Holborn gravelly loam, 8 to 30 percent slopes--4 percent
Inclusion 4: Jackpot sandy loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Kzin--Landform: Pediments; geomorphic position: backslope; shape of slope: convex
Golsum--Landform: Pediments; geomorphic position: backslope; shape of slope: concave
Golsum--Landform: Pediments; geomorphic position: summit
Inclusion 1--Landform: Pediments; geomorphic position: backslope
Inclusion 2--Landform: Pediments; geomorphic position: backslope; shape of slope: concave
Inclusion 3--Landform: Pediments; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 4--Landform: Pediments; geomorphic

position: backslope; position on slope: lower; shape of slope: plane

Major Component Description

Kzin Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Golsum Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 11 inches
Air temperature: About 45 degrees
Frost-free season: About 85 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Golsum Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 11 inches
Air temperature: About 45 degrees
Frost-free season: About 85 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Kzin: Utah juniper, black sagebrush, singleleaf pinyon
Golsum: Big sagebrush, bluebunch wheatgrass
Golsum: Utah juniper, singleleaf pinyon
Inclusion 1: Black sagebrush, bluebunch wheatgrass
Inclusion 2: Black sagebrush, bluebunch wheatgrass
Inclusion 3: Black sagebrush, bluebunch wheatgrass
Inclusion 4: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail

Ecological Site

Kzin: 028BY060NV
Golsum: 025XY027NV
Golsum: 028BY062NV
Inclusion 1: 024XY031NV
Inclusion 2: 024XY031NV
Inclusion 3: 028BY006NV
Inclusion 4: 024XY017NV

1070--Loray-Luap-Toano association

Composition

Major Components
Loray gravelly loam, 2 to 4 percent slopes--35 percent
Luap very gravelly fine sandy loam, 2 to 4 percent slopes--30 percent
Toano silt loam, gravelly substratum, 2 to 4 percent slopes, occasionally flooded--20 percent
Contrasting Inclusions
Inclusion 1: Gravier gravelly loam, 2 to 4 percent slopes--5 percent
Inclusion 2: Loray loamy fine sand, 2 to 8 percent slopes--5 percent
Inclusion 3: Durorthidic Torriorthents, sandy-skeletal, mixed, mesic sandy loam--4 percent
Inclusion 4: Shafter silt loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Loray--Landform: Fan skirts
Luap--Landform: Fan skirts
Toano--Landform: Fan skirts
Inclusion 1--Landform: Fan skirts
Inclusion 2--Landform: Fan skirts; shape of slope: concave
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Spits

Major Component Description

Loray Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Luap Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 45 percent gravel

Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Toano Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Loray: Indian ricegrass, bud sagebrush, shadscale
Luap: Indian ricegrass, bud sagebrush, shadscale
Toano: Indian ricegrass, bottlebrush squirreltail, winterfat
Inclusion 1: Indian ricegrass, winterfat
Inclusion 2: Fourwing saltbush, spiny hopsage
Inclusion 3: Fourwing saltbush, spiny hopsage
Inclusion 4: Indian ricegrass, winterfat

Ecological Site

Loray: 028BY017NV
Luap: 028BY017NV
Toano: 028BY018NV
Inclusion 1: 028BY013NV
Inclusion 2: 028BY078NV
Inclusion 3: 028BY078NV
Inclusion 4: 028BY013NV

1071--Loray-Luap association

Composition

Major Components
Loray loamy fine sand, 2 to 8 percent slopes--60 percent
Luap very gravelly fine sandy loam, 2 to 8 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Loray gravelly loam, 8 to 15 percent slopes--5 percent
Inclusion 2: Sodhouse gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Shuttle fine sandy loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Toano silt loam, 2 to 4 percent slopes, occasionally flooded--2 percent

Map Unit Setting

Landscape position: Intermontane basins
Loray--Landform: Beach plains
Luap--Landform: Spits; geomorphic position: summit
Inclusion 1--Landform: Spits; geomorphic position: backslope
Inclusion 2--Landform: Fan remnants
Inclusion 3--Landform: Fan skirts
Inclusion 4--Landform: Lagoons

Major Component Description

Loray Series
Elevation: 4,800 to 5,300 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Loamy fine sand
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Luap Series
Elevation: 4,800 to 5,300 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 45 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Loray: Indian ricegrass, fourwing saltbush, spiny hopsage
Luap: Indian ricegrass, bud sagebrush, shadscale
Inclusion 1: Indian ricegrass, bud sagebrush, shadscale
Inclusion 2: Indian ricegrass, bud sagebrush, shadscale
Inclusion 3: Indian ricegrass, bottlebrush squirreltail, winterfat
Inclusion 4: Indian ricegrass, bottlebrush squirreltail, winterfat

Ecological Site

Loray: 028BY078NV
Luap: 028BY017NV
Inclusion 1: 028BY017NV
Inclusion 2: 028BY017NV
Inclusion 3: 028BY018NV

Inclusion 4: 028BY018NV

1072--Loray, loamy fine sand-Loray-Hardhat association

Composition

Major Components

Loray loamy fine sand, 2 to 4 percent slopes--45 percent

Loray gravelly loam, 2 to 4 percent slopes--25 percent

Hardhat silt loam, 2 to 4 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--9 percent

Inclusion 2: Wiffo gravelly loam, 2 to 4 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts

Loray--Landform: Fan skirts

Loray--Landform: Fan skirts

Hardhat--Landform: Fan skirts; position on slope: upper

Inclusion 1--Landform: Drainageways; position on slope: lower

Inclusion 2--Landform: Drainageways; position on slope: upper

Major Component Description

Loray Series

Elevation: 4,850 to 5,300 feet

Precipitation: About 6 inches

Air temperature: About 46 degrees

Frost-free season: About 85 days

Surface rock fragments: 10 percent gravel

Surface layer texture: Loamy fine sand

Drainage class: Somewhat excessively drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Loray Series

Elevation: 4,850 to 5,300 feet

Precipitation: About 6 inches

Air temperature: About 46 degrees

Frost-free season: About 115 days

Surface rock fragments: 50 percent gravel

Surface layer texture: Gravelly loam

Drainage class: Somewhat excessively drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Hardhat Series

Elevation: 4,850 to 5,300 feet

Precipitation: About 6 inches

Air temperature: About 49 degrees

Frost-free season: About 110 days

Surface layer texture: Silt loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Dominant Present Vegetation

Loray: Indian ricegrass, fourwing saltbush, spiny hopsage

Loray: Indian ricegrass, bud sagebrush, shadscale

Hardhat: Bottlebrush squirreltail, shadscale

Inclusion 1: Fourwing saltbush, spiny hopsage

Inclusion 2: Wyoming big sagebrush, bottlebrush squirreltail, cheatgrass

Ecological Site

Loray: 028BY078NV

Loray: 028BY017NV

Hardhat: 028BY073NV

Inclusion 1: 028BY078NV

Inclusion 2: 028BY010NV

1120--Ashart-Zark association

Composition

Major Components

Ashart sandy loam, 2 to 8 percent slopes--50 percent

Zark loamy fine sand, 4 to 15 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Bluehill fine sandy loam, 4 to 15 percent slopes--5 percent

Inclusion 2: Xerxes extremely cobbly loamy sand, 8 to 30 percent slopes--5 percent

Inclusion 3: Hundraw gravelly fine sandy loam, 15 to 50 percent slopes--3 percent

Inclusion 4: Aridic Argixerolls, loamy, mixed, mesic, shallow very gravelly loam--2 percent

Map Unit Setting

Landscape position: Hills

Ashart--Landform: Hills; geomorphic position: backslope; position on slope: lower

Zark--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope; aspect: south

Major Component Description

Ashart Series
Elevation: 5,200 to 5,400 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Zark Series
Elevation: 5,200 to 5,400 feet
Precipitation: About 11 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Loamy fine sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Ashart: Indian ricegrass, Nevada bluegrass, Wyoming big sagebrush
Zark: Wyoming big sagebrush, basin big sagebrush, needleandthread
Inclusion 1: Indian ricegrass, Nevada bluegrass, Wyoming big sagebrush
Inclusion 2: Bluebunch wheatgrass
Inclusion 3: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush, needleandthread

Ecological Site

Ashart: 025XY066NV
Zark: 025XY045NV
Inclusion 1: 025XY066NV
Inclusion 2: 025XY021NV
Inclusion 3: 025XY066NV
Inclusion 4: 025XY045NV

1140--Elocin-Stampede-Donna association

Composition

Major Components
Elocin gravelly silt loam, 4 to 15 percent slopes, occasionally flooded--40 percent
Stampede gravelly loam, 2 to 8 percent slopes--25 percent
Donna gravelly loam, 2 to 8 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Igdell gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Cumulic Haploxerolls, loamy-skeletal, mixed, frigid silt loam--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Elocin--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Stampede--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: plane
Donna--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Inset fans

Major Component Description

Elocin Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Stampede Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Donna Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Elocin: Thurber needlegrass, alkali sagebrush, bluebunch wheatgrass, low sagebrush
Stampede: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass, cheatgrass
Donna: Bluebunch wheatgrass, bluegrass, low sagebrush
Inclusion 1: Bluebunch wheatgrass, low sagebrush
Inclusion 2: Basin wildrye

Ecological Site

Elocin: 025XY018NV
Stampede: 025XY014NV
Donna: 025XY018NV
Inclusion 1: 025XY017NV
Inclusion 2: 025XY003NV

1141--Elocin-Donna association

Composition

Major Components
Elocin gravelly silt loam, 2 to 8 percent slopes, occasionally flooded--50 percent
Donna gravelly loam, 2 to 8 percent slopes--35 percent
Contrasting Inclusions
Inclusion 1: Cumulic Haplaquolls, loamy-skeletal, mixed, frigid silt loam--5 percent
Inclusion 2: Typic Argixerolls, fine-loamy, mixed, frigid gravelly loam--5 percent
Inclusion 3: Stampede gravelly loam, 2 to 4 percent slopes--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Elocin--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Donna--Landform: Fan remnants; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Flood plains; position on slope: lower
Inclusion 2--Landform: Flood plains; position on slope: upper
Inclusion 3--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Elocin Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Donna Series
Elevation: 5,900 to 6,300 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Elocin: Bluebunch wheatgrass, bluegrass, low sagebrush
Donna: Bluebunch wheatgrass, bluegrass, low sagebrush
Inclusion 1: Willow
Inclusion 2: Basin big sagebrush, basin wildrye
Inclusion 3: Big sagebrush, bottlebrush squirreltail

Ecological Site

Elocin: 025XY018NV
Donna: 025XY018NV
Inclusion 1: 025XY005NV
Inclusion 2: 025XY003NV
Inclusion 3: 025XY014NV

1190--Tweener-Shalper-Cleavage association

Composition

Major Components
Tweener very gravelly loam, 15 to 50 percent slopes--45 percent
Shalper very gravelly loam, 15 to 50 percent slopes--25 percent

Cleavage very gravelly loam, 8 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--7 percent
Inclusion 2: Loncan very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Sumine very gravelly loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Lithic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Tweener--Landform: Hills; geomorphic position: backslope; position on slope: upper
Shalper--Landform: Hills; geomorphic position: backslope; position on slope: lower
Cleavage--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Tweener Series

Elevation: 5,400 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Shalper Series

Elevation: 5,400 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Cleavage Series

Elevation: 5,400 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Tweener: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Cleavage: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 1: None
Inclusion 2: Idaho fescue, bitterbrush
Inclusion 3: Basin wildrye, bluebunch wheatgrass, mountain big sagebrush
Inclusion 4: Utah juniper, Wyoming big sagebrush

Ecological Site

Tweener: 025XY007NV
Shalper: 025XY021NV
Cleavage: 025XY017NV
Inclusion 1: none
Inclusion 2: 025XY012NV
Inclusion 3: 025XY009NV
Inclusion 4: 025XY059NV

1191--Tweener, steep-Tweener-Graley association

Composition

Major Components

Tweener very gravelly loam, 15 to 50 percent slopes--40 percent
Tweener very gravelly loam, 4 to 15 percent slopes--30 percent
Graley very gravelly loam, 15 to 30 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Keman gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 2: Cleavage extremely gravelly loam, 4 to 15 percent slopes--3 percent
Inclusion 3: Welch silt loam, drained, 2 to 8 percent slopes--2 percent
Inclusion 4: Lithic Haploxerolls, loamy-skeletal,

mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Tweener--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Tweener--Landform: Hills; geomorphic position: summit
Graley--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Tweener Series
Elevation: 6,100 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Tweener Series
Elevation: 6,100 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Graley Series
Elevation: 6,100 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Tweener: Antelope bitterbrush, bluebunch wheatgrass
Tweener: Antelope bitterbrush, bluebunch wheatgrass
Graley: Idaho fescue
Inclusion 1: Idaho fescue, snowberry
Inclusion 2: Webber ricegrass, black sagebrush, low sagebrush
Inclusion 3: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 4: Idaho fescue, serviceberry

Ecological Site

Tweener: 025XY007NV
Tweener: 025XY007NV
Graley: 025XY012NV
Inclusion 1: 025XY004NV
Inclusion 2: 025XY024NV
Inclusion 3: 025XY003NV
Inclusion 4: 025XY046NV

1200--Xerxes-Bluehill association

Composition

Major Components
Xerxes extremely cobbly loamy sand, 4 to 30 percent slopes--60 percent
Bluehill fine sandy loam, 15 to 50 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Hundraw gravelly fine sandy loam, 15 to 50 percent slopes--8 percent
Inclusion 2: Aridic Argixerolls, fine, montmorillonitic, frigid very gravelly loam--3 percent
Inclusion 3: Aridic Argixerolls, clayey, montmorillonitic, frigid, shallow very gravelly loam--2 percent
Inclusion 4: Xeric Torriorthents, loamy, mixed (calcareous), frigid, shallow gravelly silt loam--2 percent

Map Unit Setting

Landscape position: Hills
Xerxes--Landform: Hills; geomorphic position: summit; shape of slope: convex

Bluehill--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 2--Landform: Hills; position on slope: lower
Inclusion 3--Landform: Hills; position on slope: lower
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Xerxes Series
Elevation: 5,200 to 5,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent stones and boulders; 20 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly loamy sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Bluehill Series
Elevation: 5,200 to 5,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 105 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and alluvium derived from volcanic ash

Dominant Present Vegetation

Xerxes: Wyoming big sagebrush, bluebunch wheatgrass
Bluehill: Wyoming big sagebrush, bluebunch wheatgrass, needleandthread
Inclusion 1: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush, cheatgrass
Inclusion 3: Bluebunch wheatgrass, low sagebrush
Inclusion 4: Indian ricegrass, black sagebrush

Ecological Site

Xerxes: 025XY021NV
Bluehill: 025XY066NV
Inclusion 1: 025XY066NV
Inclusion 2: 025XY014NV
Inclusion 3: 025XY018NV
Inclusion 4: 024XY030NV

1201--Xerxes-Zark-Ashart association

Composition

Major Components
Xerxes very cobbly sandy loam, 15 to 30 percent slopes--35 percent
Zark loamy fine sand, 2 to 8 percent slopes--25 percent
Ashart sandy loam, 4 to 15 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Shalper very gravelly loam, 2 to 8 percent slopes--6 percent
Inclusion 2: Shalper very gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Hundraw gravelly fine sandy loam, 15 to 30 percent slopes--3 percent
Inclusion 4: Welch silt loam, drained, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Hills
Xerxes--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Zark--Landform: Hills; geomorphic position: summit; position on slope: lower; shape of slope: plane
Ashart--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 1--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 2--Landform: Hills; geomorphic position: backslope
Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Drainageways

Major Component Description

Xerxes Series
Elevation: 5,400 to 5,800 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent cobbles; 25 percent gravel
Surface layer texture: Very cobbly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Zark Series
Elevation: 5,400 to 5,800 feet
Precipitation: About 11 inches

Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Loamy fine sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Ashart Series
Elevation: 5,400 to 5,800 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Xerxes: Wyoming big sagebrush, bluebunch wheatgrass
Zark: Indian ricegrass, Wyoming big sagebrush, needleandthread
Ashart: Indian ricegrass, Nevada bluegrass, Wyoming big sagebrush
Inclusion 1: Bluebunch wheatgrass
Inclusion 2: Bluebunch wheatgrass
Inclusion 3: Utah juniper, black sagebrush
Inclusion 4: Basin big sagebrush, basin wildrye

Ecological Site

Xerxes: 025XY021NV
Zark: 025XY045NV
Ashart: 025XY066NV
Inclusion 1: 025XY021NV
Inclusion 2: 025XY021NV
Inclusion 3: 025XY060NV
Inclusion 4: 025XY003NV

1203--Xerxes, moderately steep-Xerxes-Shalper association

Composition

Major Components
Xerxes very cobbly sandy loam, 15 to 30 percent slopes--35 percent
Xerxes extremely cobbly loamy sand, 4 to 15 percent slopes--30 percent
Shalper very gravelly loam, 2 to 8 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Shalcleav very gravelly silt loam, 4 to 15 percent slopes--10 percent
Inclusion 2: Sumine very gravelly loam, 15 to 30 percent slopes--2 percent
Inclusion 3: Welch silt loam, 0 to 2 percent slopes, rarely flooded--2 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Xerxes--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Xerxes--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Shalper--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: backslope

Major Component Description

Xerxes Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent cobbles; 25 percent gravel
Surface layer texture: Very cobbly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Xerxes Series
Elevation: 5,500 to 5,900 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent cobbles; 25 percent gravel
Surface layer texture: Extremely cobbly loamy sand
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Shalper Series
Elevation: 5,500 to 5,900 feet

Precipitation: About 12 inches
Air temperature: About 45 degrees
Frost-free season: About 85 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Xerxes: Wyoming big sagebrush, bluebunch wheatgrass
Xerxes: Wyoming big sagebrush, bluebunch wheatgrass
Shalper: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Basin wildrye, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Nevada bluegrass, basin big sagebrush, basin wildrye
Inclusion 4: None

Ecological Site

Xerxes: 025XY021NV
Xerxes: 025XY021NV
Shalper: 025XY021NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY003NV
Inclusion 4: none

1204--Xerxes-Shalper-Bluehill association

Composition

Major Components

Xerxes very cobbly sandy loam, 15 to 30 percent slopes--45 percent
Shalper very gravelly loam, 8 to 15 percent slopes--25 percent
Bluehill fine sandy loam, 2 to 8 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Lithic Haploxerolls, loamy-skeletal, mixed, mesic very gravelly loam--5 percent
Inclusion 2: Zark loamy fine sand, 4 to 15 percent slopes--5 percent
Inclusion 3: Shalcleav very gravelly loam--5 percent

Map Unit Setting

Landscape position: Hills
Xerxes--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Shalper--Landform: Hills; geomorphic position: summit; shape of slope: convex
Bluehill--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope
Inclusion 3--Landform: Hills; geomorphic position: summit

Major Component Description

Xerxes Series

Elevation: 5,300 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent cobbles; 25 percent gravel
Surface layer texture: Very cobbly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks, loess and volcanic ash

Shalper Series

Elevation: 5,300 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 45 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Bluehill Series

Elevation: 5,300 to 6,200 feet
Precipitation: About 14 inches
Air temperature: About 47 degrees
Frost-free season: About 105 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and alluvium derived from volcanic ash

Dominant Present Vegetation

Xerxes: Wyoming big sagebrush, bluebunch wheatgrass
Shalper: Wyoming big sagebrush, bluebunch wheatgrass

Bluehill: Indian ricegrass, Nevada bluegrass, Wyoming big sagebrush
Inclusion 1: Utah juniper
Inclusion 2: Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 3: Thurber needlegrass, black sagebrush

Ecological Site

Xerxes: 025XY021NV
Shalper: 025XY021NV
Bluehill: 025XY066NV
Inclusion 1: 025XY059NV
Inclusion 2: 025XY045NV
Inclusion 3: 025XY057NV

1400--Nevador-Zapa association

Composition

Major Components

Nevador gravelly loam, 4 to 15 percent slopes--55 percent
Zapa very gravelly silt loam, 15 to 30 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Ackett very gravelly clay loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Hunewill gravelly silt loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Wieland very gravelly loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Rodie very gravelly loam, 15 to 30 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Nevador--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: concave
Zapa--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: plane
Inclusion 2--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Nevador Series

Elevation: 5,000 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Zapa Series

Elevation: 5,000 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Nevador: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Zapa: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush
Inclusion 4: Black sagebrush, bluebunch wheatgrass

Ecological Site

Nevador: 025XY019NV
Zapa: 024XY030NV
Inclusion 1: 024XY030NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV
Inclusion 4: 025XY055NV

2000--Shuttle-Shafter-Loray association

Composition

Major Components

Shuttle silt loam, 2 to 8 percent slopes--30 percent
Shafter gravelly loam, 2 to 8 percent slopes--30 percent
Loray gravelly loam, 8 to 30 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Toano silt loam, 2 to 8 percent slopes--

5 percent
Inclusion 2: Pibler very gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Gravier gravelly loam, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Shuttle--Landform: Fan skirts
Shafter--Landform: Fan remnants; geomorphic position: summit
Loray--Landform: Spits; geomorphic position: backslope
Inclusion 1--Landform: Fan skirts; shape of slope: plane
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Fan skirts; shape of slope: concave

Major Component Description

Shuttle Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 6 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Shafter Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and dolomite, loess and volcanic ash

Loray Series
Elevation: 4,900 to 5,200 feet
Precipitation: About 6 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Shuttle: Indian ricegrass, bottlebrush squirreltail, winterfat
Shafter: Indian ricegrass, bluegrass, winterfat
Loray: Indian ricegrass, bud sagebrush, needleandthread, shadscale
Inclusion 1: Indian ricegrass, winterfat
Inclusion 2: Black sagebrush, bottlebrush squirreltail
Inclusion 3: Indian ricegrass, winterfat

Ecological Site

Shuttle: 028BY018NV
Shafter: 028AY002NV
Loray: 028BY017NV
Inclusion 1: 028BY018NV
Inclusion 2: 028BY011NV
Inclusion 3: 028BY013NV

2001--Shuttle-Hardhat-Shuttle, loamy substratum association

Composition

Major Components
Shuttle silt loam, 2 to 8 percent slopes--40 percent
Hardhat silt loam, 2 to 8 percent slopes--30 percent
Shuttle silt loam, loamy substratum, 2 to 8 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Shafter gravelly loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Loray gravelly loam, 8 to 30 percent slopes--5 percent
Inclusion 3: Toano silt loam, 2 to 8 percent slopes, occasionally flooded--5 percent

Map Unit Setting

Landscape position: Fan piedmonts
Shuttle--Landform: Fan skirts; position on slope: upper; shape of slope: plane
Hardhat--Landform: Fan skirts; position on slope: lower
Shuttle--Landform: Fan skirts; position on slope: lower
Inclusion 1--Landform: Spits; geomorphic position: summit
Inclusion 2--Landform: Spits; geomorphic position: backslope

Inclusion 3--Landform: Fan skirts; position on slope: lower

Major Component Description

Shuttle Series
Elevation: 4,800 to 5,300 feet
Precipitation: About 6 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Hardhat Series
Elevation: 4,800 to 5,300 feet
Precipitation: About 6 inches
Air temperature: About 49 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Shuttle Series
Elevation: 4,800 to 5,300 feet
Precipitation: About 6 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Shuttle: Indian ricegrass, bottlebrush squirreltail, winterfat
Hardhat: Indian ricegrass, bottlebrush squirreltail, shadscale
Shuttle: Indian ricegrass, bottlebrush squirreltail, winterfat
Inclusion 1: Sandberg bluegrass, winterfat
Inclusion 2: Bud sagebrush, needleandthread, shadscale
Inclusion 3: Indian ricegrass, winterfat

Ecological Site

Shuttle: 028BY018NV
Hardhat: 028BY073NV
Shuttle: 028BY018NV
Inclusion 1: 028BY013NV
Inclusion 2: 028BY017NV
Inclusion 3: 028BY018NV

2010--Wiffo Variant extremely stony sandy loam, 2 to 8 percent slopes, rarely flooded

Composition

Major Components
Wiffo Variant extremely stony sandy loam, 2 to 8 percent slopes, rarely flooded--85 percent
Contrasting Inclusions
Inclusion 1: Sodhouse gravelly loam, 2 to 8 percent slopes--6 percent
Inclusion 2: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic gravelly silt loam--6 percent
Inclusion 3: Izar very cobbly loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Fan piedmonts
Wiffo Variant--Landform: Alluvial fans
Inclusion 1--Landform: Alluvial fans; position on slope: lower
Inclusion 2--Landform: Inset fans
Inclusion 3--Landform: Pediments

Major Component Description

Wiffo Variant
Elevation: 5,100 to 5,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent stones and boulders; 5 percent cobbles; 10 percent gravel
Surface layer texture: Extremely stony sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Wiffo Variant: Indian ricegrass, Wyoming big sagebrush, spiny hopsage
Inclusion 1: Indian ricegrass, shadscale
Inclusion 2: Indian ricegrass, Wyoming big sagebrush
Inclusion 3: Indian ricegrass, black sagebrush

Ecological Site

Wiffo Variant: 025XY052NV
Inclusion 1: 028BY017NV
Inclusion 2: 028BY010NV
Inclusion 3: 028BY011NV

2030--Cavehill-Nirac-Gollaher association

Composition

Major Components

Cavehill very gravelly silt loam, 15 to 50 percent slopes--40 percent

Nirac gravelly silt loam, 15 to 50 percent slopes--30 percent

Gollaher very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hopeka very gravelly loam, 15 to 50 percent slopes--7 percent

Inclusion 2: Typic Calcixerolls, loamy-skeletal, carbonatic, frigid very gravelly loam--4 percent

Inclusion 3: Onkeyo very gravelly loam, 15 to 50 percent slopes--3 percent

Inclusion 4: Belsac very gravelly loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains

Cavehill--Landform: Mountains; shape of slope: plane; aspect: north

Nirac--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north

Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: concave

Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: south

Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower

Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Cavehill Series

Elevation: 5,600 to 7,500 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 85 days

Surface rock fragments: 3 percent stones and boulders; 5 percent cobbles; 30 percent gravel

Surface layer texture: Very gravelly silt loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Nirac Series

Elevation: 5,600 to 7,500 feet

Precipitation: About 12 inches

Air temperature: About 43 degrees

Frost-free season: About 90 days

Surface rock fragments: 20 percent gravel

Surface layer texture: Gravelly silt loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Gollaher Series

Elevation: 5,600 to 7,500 feet

Precipitation: About 14 inches

Air temperature: About 44 degrees

Frost-free season: About 90 days

Surface rock fragments: 5 percent cobbles; 50 percent gravel

Surface layer texture: Very gravelly loam

Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Cavehill: Idaho fescue, mountain big sagebrush, singleleaf pinyon

Nirac: Idaho fescue, snowberry

Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Inclusion 1: Utah juniper, black sagebrush, singleleaf pinyon

Inclusion 2: Thurber needlegrass, black sagebrush

Inclusion 3: Bluebunch wheatgrass

Inclusion 4: Idaho fescue, mountain big sagebrush, slender wheatgrass, snowberry

Ecological Site

Cavehill: 025XY061NV

Nirac: 025XY012NV

Gollaher: 025XY057NV

Inclusion 1: 028BY060NV

Inclusion 2: 024XY031NV

Inclusion 3: 025XY042NV

Inclusion 4: 025XY004NV

2040--Sodhouse-Loray association

Composition

Major Components

Sodhouse gravelly silt loam, 2 to 8 percent slopes--70 percent

Loray gravelly loam, 8 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Shafter gravelly loam, 2 to 8 percent slopes--10 percent

Inclusion 2: Loray loamy fine sand, 2 to 8 percent slopes--5 percent

Map Unit Setting

Landscape position: Intermontane basins

Sodhouse--Landform: Fan remnants; geomorphic position: summit

Loray--Landform: Spits

Inclusion 1--Landform: Fan remnants; geomorphic position: summit; shape of slope: concave

Inclusion 2--Landform: Beach plains

Major Component Description

Sodhouse Series

Elevation: 4,900 to 5,300 feet

Precipitation: About 7 inches

Air temperature: About 48 degrees

Frost-free season: About 115 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Gravelly silt loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Loray Series

Elevation: 4,900 to 5,300 feet

Precipitation: About 6 inches

Air temperature: About 47 degrees

Frost-free season: About 115 days

Surface rock fragments: 50 percent gravel

Surface layer texture: Gravelly loam

Drainage class: Somewhat excessively drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Sodhouse: Indian ricegrass, bud sagebrush, shadscale

Loray: Indian ricegrass, bud sagebrush, shadscale

Inclusion 1: Bluegrass, winterfat

Inclusion 2: Fourwing saltbush, spiny hopsage

Ecological Site

Sodhouse: 028BY017NV

Loray: 028BY017NV

Inclusion 1: 028BY013NV

Inclusion 2: 028BY078NV

2042--Sodhouse-Pibler association

Composition

Major Components

Sodhouse gravelly silt loam, 2 to 8 percent slopes--60 percent

Pibler very gravelly fine sandy loam, 2 to 8 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Gravier gravelly loam, 2 to 8 percent slopes--4 percent

Inclusion 2: Izar very gravelly loam, 2 to 8 percent slopes--3 percent

Inclusion 3: Wiffo very gravelly sandy loam, 2 to 4 percent slopes, occasionally flooded--3 percent

Map Unit Setting

Landscape position: Fan piedmonts

Sodhouse--Landform: Fan remnants; geomorphic position: summit

Pibler--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave

Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower

Inclusion 2--Landform: Pediments; geomorphic position: backslope

Inclusion 3--Landform: Inset fans; geomorphic position: backslope; position on slope: lower

Major Component Description

Sodhouse Series

Elevation: 4,900 to 5,500 feet

Precipitation: About 7 inches

Air temperature: About 48 degrees

Frost-free season: About 115 days

Surface rock fragments: 40 percent gravel

Surface layer texture: Gravelly silt loam

Drainage class: Well drained

Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Pibler Series

Elevation: 4,900 to 5,500 feet

Precipitation: About 9 inches

Air temperature: About 52 degrees

Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Sodhouse: Indian ricegrass, bud sagebrush, shadscale
Pibler: Indian ricegrass, black sagebrush, needleandthread
Inclusion 1: Indian ricegrass, bluegrass, winterfat
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, spiny hopsage

Ecological Site

Sodhouse: 028BY017NV
Pibler: 028BY011NV
Inclusion 1: 028BY013NV
Inclusion 2: 028BY011NV
Inclusion 3: 028BY052NV

2050--Hopeka-Tecomar association

Composition

Major Components

Hopeka very gravelly loam, 30 to 75 percent slopes--65 percent
Tecomar extremely cobbly silt loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--7 percent
Inclusion 2: Amtoft extremely gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 3: Xerollic Calciorthids, loamy-skeletal, mixed, mesic very gravelly loam--3 percent

Map Unit Setting

Landscape position: Mountains
Hopeka--Landform: Mountains; geomorphic position: summit
Tecomar--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: backslope
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex; aspect: south
Inclusion 3--Landform: Drainageways

Major Component Description

Hopeka Series

Elevation: 5,800 to 6,800 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Tecomar Series

Elevation: 5,800 to 6,800 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: None
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Black sagebrush, needleandthread

Ecological Site

Hopeka: 028BY060NV
Tecomar: 024XY031NV
Inclusion 1: none
Inclusion 2: 025XY057NV
Inclusion 3: 028BY006NV

2051--Hopeka-Kzin-Rock outcrop association

Composition

Major Components

Hopeka very gravelly loam, 15 to 50 percent slopes--50 percent
Kzin very gravelly loam, 15 to 50 percent slopes--20 percent
Rock outcrop--15 percent

Contrasting Inclusions
Inclusion 1: Rubble land--5 percent
Inclusion 2: Tecomar very gravelly silt loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Ekim very cobbly loam, 15 to 50 percent slopes--4 percent
Inclusion 4: Torrifluventic Haploxerolls, loamy-skeletal, mixed, mesic sandy loam--2 percent

Map Unit Setting
Landscape position: Mountains
Hopeka--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Kzin--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Rock outcrop--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: backslope
Inclusion 2--Landform: Mountains; geomorphic position: backslope; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Drainageways; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description
Hopeka Series
Elevation: 5,500 to 7,600 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Kzin Series
Elevation: 5,500 to 7,600 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Rock outcrop Miscellaneous Area
Elevation: 5,500 to 7,600 feet

Dominant Present Vegetation
Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Kzin: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Rock outcrop: None
Inclusion 1: None
Inclusion 2: Black sagebrush, bluebunch wheatgrass
Inclusion 3: Antelope bitterbrush, mountain big sagebrush
Inclusion 4: Indian ricegrass, big sagebrush

Ecological Site
Hopeka: 028BY060NV
Kzin: 028BY060NV
Rock outcrop: None
Inclusion 1: none
Inclusion 2: 024XY031NV
Inclusion 3: 025XY009NV
Inclusion 4: 028BY007NV

2053--Hopeka-Tecomar-Nirac association

Composition
Major Components
Hopeka very gravelly loam, 15 to 50 percent slopes--35 percent
Tecomar extremely gravelly loam, 15 to 50 percent slopes--30 percent
Nirac gravelly silt loam, 8 to 30 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Onkeyo very gravelly silty clay loam, 8 to 30 percent slopes--5 percent
Inclusion 2: Gollaher extremely gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Rock outcrop--3 percent
Inclusion 4: Aridic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--3 percent

Map Unit Setting
Landscape position: Mountains
Hopeka--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Tecomar--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Nirac--Landform: Mountains; geomorphic position: backslope; shape of slope: concave

Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Mountains; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Mountains
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: lower

Major Component Description

Hopeka Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Tecomar Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 45 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Nirac Series
Elevation: 6,200 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Nirac: Antelope bitterbrush, bluebunch wheatgrass
Inclusion 1: Bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: None
Inclusion 4: Thurber needlegrass, big sagebrush

Ecological Site

Hopeka: 028BY060NV
Tecomar: 024XY031NV
Nirac: 025XY012NV
Inclusion 1: 025XY042NV
Inclusion 2: 025XY057NV
Inclusion 3: none
Inclusion 4: 025XY014NV

2054--Hopeka-Rock outcrop association

Composition

Major Components
Hopeka very gravelly loam, 30 to 50 percent slopes--70 percent
Rock outcrop--20 percent
Contrasting Inclusions
Inclusion 1: Graley gravelly loam, 30 to 50 percent slopes--5 percent
Inclusion 2: Tecomar extremely cobbly silt loam, 30 to 50 percent slopes--3 percent
Inclusion 3: Aridic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--2 percent

Map Unit Setting

Landscape position: Mountains
Hopeka--Landform: Mountains; geomorphic position: summit
Rock outcrop--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Drainageways

Major Component Description

Hopeka Series
Elevation: 6,200 to 7,500 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam

Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Rock outcrop Miscellaneous Area
Elevation: 6,200 to 7,500 feet

Dominant Present Vegetation

Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Rock outcrop: None
Inclusion 1: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Big sagebrush, bottlebrush squirreltail

Ecological Site

Hopeka: 028BY060NV
Rock outcrop: None
Inclusion 1: 025XY012NV
Inclusion 2: 024XY031NV
Inclusion 3: 025XY014NV

2060--Appian-Kawich, fine sand-Kawich association

Composition

Major Components
Appian fine sandy loam, 0 to 2 percent slopes--50 percent
Kawich fine sand, 8 to 30 percent slopes--25 percent
Kawich sandy loam, 2 to 4 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Typic Torripsamments, mixed, mesic loamy sand--5 percent
Inclusion 2: Typic Torripsamments, mixed, mesic loamy sand--4 percent
Inclusion 3: Sondoa silt loam, strongly saline-alkali, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Intermontane basins
Appian--Landform: Lake plains; position on slope: lower
Kawich--Landform: Dunes
Kawich--Landform: Sand sheets
Inclusion 1--Landform: Lake plains; geomorphic position: backslope
Inclusion 2--Landform: Lake terraces
Inclusion 3--Landform: Lake plains; geomorphic position: backslope

Major Component Description

Appian Series
Elevation: 4,700 to 5,000 feet
Precipitation: About 6 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks and lacustrine sediments

Kawich Series
Elevation: 4,700 to 5,000 feet
Precipitation: About 6 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface layer texture: Fine sand
Drainage class: Excessively drained
Dominant parent material: Eolian sand

Kawich Series
Elevation: 4,700 to 5,000 feet
Precipitation: About 6 inches
Air temperature: About 52 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Excessively drained
Dominant parent material: Eolian sand

Dominant Present Vegetation

Appian: Wyoming big sagebrush, basin wildrye, black greasewood
Kawich: Indian ricegrass, black greasewood, fourwing saltbush, spiny hopsage
Kawich: Wyoming big sagebrush, basin wildrye, black greasewood
Inclusion 1: Basin wildrye, big sagebrush, black greasewood
Inclusion 2: Basin wildrye, big sagebrush, black greasewood
Inclusion 3: Sickle saltbush

Ecological Site

Appian: 028BY058NV
Kawich: 028AY018NV
Kawich: 028BY058NV
Inclusion 1: 028BY028NV
Inclusion 2: 028BY028NV
Inclusion 3: 028BY047NV

2070--Kawich-Kawich, fine sand-Ixian association

Composition

Major Components

Kawich sandy loam, 2 to 4 percent slopes--45 percent

Kawich fine sand, 8 to 50 percent slopes--25 percent

Ixian silt loam, rarely flooded, 0 to 2 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Typic Torriorthents, fine-silty, mixed (calcareous), mesic silt loam--8 percent

Inclusion 2: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--4 percent

Inclusion 3: Typic Torriorthents, fine-silty, mixed (calcareous), mesic silt loam--2 percent

Inclusion 4: Ocala silt loam, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Intermontane basins

Kawich--Landform: Sand sheets

Kawich--Landform: Dunes

Ixian--Landform: Lake plains

Inclusion 1--Landform: Lake plains

Inclusion 2--Landform: Fan skirts

Inclusion 3--Landform: Lake plains; geomorphic position: backslope

Inclusion 4--Landform: Alluvial flats

Major Component Description

Kawich Series

Elevation: 4,700 to 4,900 feet

Precipitation: About 6 inches

Air temperature: About 52 degrees

Frost-free season: About 110 days

Surface layer texture: Sandy loam

Drainage class: Excessively drained

Dominant parent material: Eolian sand

Kawich Series

Elevation: 4,700 to 4,900 feet

Precipitation: About 6 inches

Air temperature: About 52 degrees

Frost-free season: About 110 days

Surface layer texture: Fine sand

Drainage class: Excessively drained

Dominant parent material: Eolian sand

Ixian Series

Elevation: 4,700 to 4,900 feet

Precipitation: About 6 inches

Air temperature: About 52 degrees

Frost-free season: About 110 days

Surface layer texture: Silt loam

Drainage class: Somewhat poorly drained

Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Dominant Present Vegetation

Kawich: Wyoming big sagebrush, basin wildrye, black greasewood

Kawich: Indian ricegrass, alkali sacaton, black greasewood, fourwing saltbush

Ixian: Alkali sacaton, black greasewood, inland saltgrass

Inclusion 1: Basin wildrye, big sagebrush, black greasewood

Inclusion 2: Basin wildrye, big sagebrush, black greasewood

Inclusion 3: Black greasewood, bud sagebrush, shadscale

Inclusion 4: Alkali sacaton, black greasewood

Ecological Site

Kawich: 028BY028NV

Kawich: 028AY018NV

Ixian: 028BY020NV

Inclusion 1: 028BY028NV

Inclusion 2: 028BY028NV

Inclusion 3: 028BY074NV

Inclusion 4: 028BY004NV

2080--Toano-Toano, occasionally flooded association

Composition

Major Components

Toano silt loam, 2 to 4 percent slopes--70 percent

Toano silt loam, gravelly substratum, 2 to 4 percent slopes, occasionally flooded--20 percent

Contrasting Inclusions

Inclusion 1: Gravier gravelly loam, 2 to 4 percent slopes--4 percent

Inclusion 2: Xeric Torripsamments, mixed, mesic loamy fine sand--3 percent

Inclusion 3: Sondoa silt loam, 0 to 2 percent slopes--2 percent

Inclusion 4: Wiffo very gravelly sandy loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Intermontane basins

Toano--Landform: Fan skirts; geomorphic position: backslope; position on slope: lower
Toano--Landform: Fan skirts; position on slope: lower
Inclusion 1--Landform: Fan skirts; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Alluvial fans
Inclusion 3--Landform: Lake plains
Inclusion 4--Landform: Fan skirts; position on slope: upper

Major Component Description

Toano Series
Elevation: 4,850 to 5,000 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Toano Series
Elevation: 4,850 to 5,000 feet
Precipitation: About 7 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Toano: Sickle saltbush
Toano: Indian ricegrass, winterfat
Inclusion 1: Indian ricegrass, bud sagebrush, winterfat
Inclusion 2: Wyoming big sagebrush, bottlebrush squirreltail, needleandthread
Inclusion 3: Alkali sacaton, black greasewood, inland saltgrass
Inclusion 4: Wyoming big sagebrush, bottlebrush squirreltail, needleandthread

Ecological Site

Toano: 028BY047NV
Toano: 028BY018NV
Inclusion 1: 028BY013NV
Inclusion 2: 028BY010NV
Inclusion 3: 028BY020NV
Inclusion 4: 028BY010NV

2081--Toano-Tulase association

Composition

Major Components
Toano silt loam, 0 to 2 percent slopes, rarely flooded--55 percent
Tulase very fine sandy loam, 0 to 2 percent slopes, occasionally flooded--35 percent
Contrasting Inclusions
Inclusion 1: Wiffo very gravelly loam, 2 to 4 percent slopes--5 percent
Inclusion 2: Toano very fine sandy loam, 2 to 4 percent slopes, occasionally flooded--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Toano--Landform: Drainageways
Tulase--Landform: Inset fans
Inclusion 1--Landform: Inset fans
Inclusion 2--Landform: Stream terraces

Major Component Description

Toano Series
Elevation: 4,850 to 5,900 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Tulase Series
Elevation: 4,850 to 5,900 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface layer texture: Very fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Toano: Indian ricegrass
Tulase: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 2: Indian ricegrass, winterfat

Ecological Site

Toano: 028BY047NV
Tulase: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 028BY018NV

2090--Toano-Enko-Sondoa association

Composition

Major Components

Toano silt loam, gravelly substratum, 2 to 4 percent slopes, occasionally flooded--40 percent
Enko sandy loam, 2 to 4 percent slopes--30 percent
Sondoa silt loam, strongly saline-alkali, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic sandy loam--5 percent
Inclusion 2: Typic Torriorthents, fine-silty, mixed (calcareous), mesic silt loam--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Toano--Landform: Fan skirts; position on slope: upper; shape of slope: plane
Enko--Landform: Fan skirts; position on slope: lower
Sondoa--Landform: Lake plains
Inclusion 1--Landform: Lake plains
Inclusion 2--Landform: Lake plains; geomorphic position: backslope; shape of slope: concave

Major Component Description

Toano Series

Elevation: 4,700 to 4,900 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Enko Series

Elevation: 4,700 to 4,900 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Sondoa Series

Elevation: 4,700 to 4,900 feet
Precipitation: About 8 inches
Air temperature: About 48 degrees
Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks and lacustrine sediments

Dominant Present Vegetation

Toano: Indian ricegrass, bottlebrush squirreltail, winterfat
Enko: Indian ricegrass, Wyoming big sagebrush, needleandthread
Sondoa: Indian ricegrass, bottlebrush squirreltail, sickle saltbush
Inclusion 1: Indian ricegrass, bud sagebrush, shadscale
Inclusion 2: Indian ricegrass, black sagebrush

Ecological Site

Toano: 028BY018NV
Enko: 028BY010NV
Sondoa: 028BY047NV
Inclusion 1: 028BY017NV
Inclusion 2: 028BY011NV

3001--Ixian-Valmy association

Composition

Major Components

Ixian silt loam, 2 to 4 percent slopes--60 percent
Valmy fine sandy loam, 2 to 8 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Sonoma silt loam, drained, 0 to 2 percent slopes, occasionally flooded--5 percent
Inclusion 2: Sonoma silty clay loam, 0 to 2 percent slopes, frequently flooded--5 percent

Map Unit Setting

Landscape position: Intermontane basins
Ixian--Landform: Lake plains
Valmy--Landform: Stream terraces
Inclusion 1--Landform: Stream terraces
Inclusion 2--Landform: Flood plains

Major Component Description

Ixian Series

Elevation: 5,300 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 47 degrees

Frost-free season: About 115 days
Surface layer texture: Silt loam
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from mixed rocks over lacustrine sediments

Valmy Series
Elevation: 5,300 to 5,600 feet
Precipitation: About 8 inches
Air temperature: About 50 degrees
Frost-free season: About 115 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Ixian: Alkali sacaton, black greasewood, inland saltgrass
Valmy: Basin big sagebrush, basin wildrye, black greasewood
Inclusion 1: Nevada bluegrass, basin big sagebrush
Inclusion 2: Baltic rush, alkali bluegrass, alkali muhly

Ecological Site

Ixian: 028BY020NV
Valmy: 024XY022NV
Inclusion 1: 025XY003NV
Inclusion 2: 024XY009NV

3008--Tecomar-Sumine-Kram association

Composition

Major Components
Tecomar extremely gravelly silt loam, 15 to 50 percent slopes--40 percent
Sumine very gravelly loam, 15 to 50 percent slopes--30 percent
Kram very gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Arcia silt loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Durixerollic Camborthids, loamy-skeletal, mixed, mesic gravelly loam--3 percent
Inclusion 3: Rock outcrop--2 percent

Map Unit Setting

Landscape position: Mountains
Tecomar--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Sumine--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: north
Kram--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Mountains; geomorphic position: summit

Major Component Description

Tecomar Series
Elevation: 6,000 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 95 days
Surface rock fragments: 5 percent stones and boulders; 10 percent cobbles; 45 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Sumine Series
Elevation: 6,000 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Kram Series
Elevation: 6,000 to 6,900 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Sumine: Antelope bitterbrush, bluebunch wheatgrass

Kram: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 1: Bluebunch wheatgrass, mountain big sagebrush
Inclusion 2: Thurber needlegrass, big sagebrush, cheatgrass
Inclusion 3: None

Ecological Site

Tecomar: 024XY031NV
Sumine: 025XY009NV
Kram: 025XY060NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY014NV
Inclusion 3: none

3009--Tecomar-Shalcleav-Gollaher association

Composition

Major Components

Tecomar extremely gravelly silt loam, 15 to 50 percent slopes--35 percent
Shalcleav extremely gravelly silt loam, 15 to 50 percent slopes--30 percent
Gollaher very gravelly loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Cleavage very gravelly loam, 8 to 15 percent slopes--5 percent
Inclusion 2: Onkeyo very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Sumine very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 4: Tusel very gravelly loam, 15 to 50 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Tecomar--Landform: Hills; geomorphic position: backslope
Shalcleav--Landform: Hills; geomorphic position: backslope
Gollaher--Landform: Hills; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north

Major Component Description

Tecomar Series

Elevation: 6,400 to 7,700 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 5 percent stones and boulders; 10 percent cobbles; 45 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Shalcleav Series

Elevation: 6,400 to 7,700 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Extremely gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Gollaher Series

Elevation: 6,400 to 7,700 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Tecomar: Black sagebrush, bluebunch wheatgrass
Shalcleav: Indian ricegrass, Thurber needlegrass, black sagebrush
Gollaher: Thurber needlegrass, black sagebrush
Inclusion 1: Bluebunch wheatgrass, low sagebrush
Inclusion 2: Idaho fescue, snowberry
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 4: California brome, slender wheatgrass, snowberry

Ecological Site

Tecomar: 024XY031NV

Shalcleav: 025XY057NV
Gollaher: 025XY057NV
Inclusion 1: 025XY017NV
Inclusion 2: 025XY042NV
Inclusion 3: 025XY009NV
Inclusion 4: 025XY004NV

3010--Tecomar-Hopeka-Gollaher association

Composition

Major Components

Tecomar extremely stony silt loam, 15 to 50 percent slopes--40 percent
Hopeka very gravelly loam, 15 to 50 percent slopes--35 percent
Gollaher very gravelly loam, 15 to 50 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Kzin very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Rock outcrop--4 percent
Inclusion 3: Onkeyo very gravelly loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Tecomar--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Hopeka--Landform: Mountains; geomorphic position: summit; shape of slope: concave
Gollaher--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Mountains
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: convex; aspect: north

Major Component Description

Tecomar Series

Elevation: 6,100 to 7,900 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 100 days
Surface rock fragments: 30 percent stones and boulders; 10 percent cobbles; 30 percent gravel
Surface layer texture: Extremely stony silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hopeka Series

Elevation: 6,100 to 7,900 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Gollaher Series

Elevation: 6,100 to 7,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Gollaher: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush, singleleaf pinyon
Inclusion 2: None
Inclusion 3: Idaho fescue, snowberry

Ecological Site

Tecomar: 024XY031NV
Hopeka: 028BY060NV
Gollaher: 025XY057NV
Inclusion 1: 028BY060NV
Inclusion 2: none
Inclusion 3: 025XY042NV

3012--Tecomar-Kram-Amtoft association

Composition

Major Components

Tecomar extremely stony silt loam, 15 to 50 percent slopes--40 percent
Kram very gravelly loam, 15 to 50 percent slopes--30 percent

Amtoft extremely stony loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--3 percent
Inclusion 2: Soughe very stony loam, 15 to 50 percent slopes--5 percent
Inclusion 3: Lithic Calcixerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent
Inclusion 4: Cobre sandy loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Mountains
Tecomar--Landform: Mountains; geomorphic position: backslope
Kram--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Amtoft--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Mountains
Inclusion 2--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 4--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Tecomar Series

Elevation: 5,000 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface layer texture: Extremely stony silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Kram Series

Elevation: 5,000 to 7,400 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Amtoft Series

Elevation: 5,000 to 7,400 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 10 percent stones and boulders; 5 percent cobbles; 30 percent gravel
Surface layer texture: Extremely stony loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Kram: Indian ricegrass, Utah juniper, black sagebrush
Amtoft: Thurber needlegrass, black sagebrush, bottlebrush squirreltail
Inclusion 1: None
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Sandberg bluegrass, Wyoming big sagebrush

Ecological Site

Tecomar: 024XY031NV
Kram: 025XY060NV
Amtoft: 025XY057NV
Inclusion 1: none
Inclusion 2: 025XY015NV
Inclusion 3: 025XY021NV
Inclusion 4: 025XY019NV

3013--Tecomar-Hopeka-Rock outcrop association

Composition

Major Components

Tecomar extremely stony silt loam, 15 to 50 percent slopes--50 percent
Hopeka very gravelly loam, 30 to 50 percent slopes--20 percent
Rock outcrop--15 percent

Contrasting Inclusions

Inclusion 1: Amtoft extremely gravelly loam, 15 to 50 percent slopes--10 percent
Inclusion 2: Xerollic Calciorthids, loamy-skeletal, mixed, mesic very gravelly loam--5 percent

Map Unit Setting

Landscape position: Mountains
Tecomar--Landform: Mountains; geomorphic

position: summit; shape of slope: plane
Hopeka--Landform: Mountains; geomorphic position: backslope
Rock outcrop--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Mountains; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Drainageways

Major Component Description

Tecomar Series
Elevation: 5,200 to 5,600 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 45 percent gravel
Surface layer texture: Extremely stony silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hopeka Series
Elevation: 5,200 to 5,600 feet
Precipitation: About 12 inches
Air temperature: About 45 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Rock outcrop Miscellaneous Area
Elevation: 5,200 to 5,600 feet

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Indian ricegrass, needleandthread, shadscale

Ecological Site

Tecomar: 024XY031NV
Hopeka: 028BY060NV
Rock outcrop: None
Inclusion 1: 025XY057NV
Inclusion 2: 028BY019NV

3014--Tecomar-Kzin-Hopeka association

Composition

Major Components
Tecomar extremely cobbly silt loam, 8 to 30 percent slopes--55 percent
Kzin very gravelly loam, 8 to 30 percent slopes--15 percent
Hopeka very gravelly loam, 30 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Wiffo very gravelly loam, 2 to 8 percent slopes--6 percent
Inclusion 2: Amtoft extremely gravelly loam, 15 to 30 percent slopes--6 percent
Inclusion 3: Nirac very gravelly silt loam, 15 to 50 percent slopes--2 percent
Inclusion 4: Sonoma silt loam, drained, 0 to 2 percent slopes, rarely flooded--1 percent

Map Unit Setting

Landscape position: Mountains
Tecomar--Landform: Mountains; geomorphic position: summit
Kzin--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Hopeka--Landform: Mountains; geomorphic position: summit
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Mountains; geomorphic position: summit; aspect: south
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 4--Landform: Drainageways

Major Component Description

Tecomar Series
Elevation: 5,700 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Kzin Series
Elevation: 5,700 to 6,400 feet
Precipitation: About 12 inches

Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent stones and boulders; 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Hopeka Series
Elevation: 5,700 to 6,400 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Kzin: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Hopeka: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Inclusion 1: Sandberg bluegrass, Wyoming big sagebrush, basin wildrye
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Idaho fescue, antelope bitterbrush
Inclusion 4: Nevada bluegrass, basin big sagebrush, basin wildrye

Ecological Site

Tecomar: 024XY031NV
Kzin: 028BY060NV
Hopeka: 028BY060NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY012NV
Inclusion 4: 025XY003NV

3015--Tecomar-Kzin association

Composition

Major Components
Tecomar extremely cobbly silt loam, 15 to 50 percent slopes--65 percent
Kzin very gravelly loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions
Inclusion 1: Amtoft extremely gravelly loam, 15 to 50 percent slopes--7 percent
Inclusion 2: Hopeka very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Wiffo very gravelly loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Tecomar--Landform: Hills; geomorphic position: summit; shape of slope: convex
Kzin--Landform: Hills; geomorphic position: summit; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Tecomar Series
Elevation: 5,600 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Kzin Series
Elevation: 5,600 to 7,000 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent stones and boulders; 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Kzin: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon

Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Utah juniper, black sagebrush, singleleaf pinyon
Inclusion 3: Sandberg bluegrass, Wyoming big sagebrush, basin wildrye
Inclusion 4: None

Ecological Site

Tecomar: 024XY031NV
Kzin: 028BY060NV
Inclusion 1: 025XY057NV
Inclusion 2: 028BY060NV
Inclusion 3: 025XY019NV
Inclusion 4: none

3016--Tecomar-Izar-Hundraw association

Composition

Major Components

Tecomar extremely cobbly silt loam, 15 to 30 percent slopes--40 percent
Izar very gravelly loam, 15 to 30 percent slopes--30 percent
Hundraw gravelly fine sandy loam, 8 to 30 percent slopes, eroded--15 percent

Contrasting Inclusions

Inclusion 1: Amtoft extremely gravelly loam, 15 to 30 percent slopes--5 percent
Inclusion 2: Izar very gravelly loam, 4 to 15 percent slopes--4 percent
Inclusion 3: Rock outcrop--4 percent
Inclusion 4: Cobre silt loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Tecomar--Landform: Hills; geomorphic position: backslope; aspect: north
Izar--Landform: Hills; geomorphic position: backslope; aspect: south
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 3--Landform: Hills; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Tecomar Series

Elevation: 5,200 to 5,600 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Izar Series

Elevation: 5,200 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Hundraw Series

Elevation: 5,200 to 5,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Izar: Indian ricegrass, black sagebrush
Hundraw: Indian ricegrass, Utah juniper, black sagebrush
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: None
Inclusion 4: Thurber needlegrass, Wyoming big sagebrush

Ecological Site

Tecomar: 024XY031NV
Izar: 024XY030NV
Hundraw: 025XY060NV

Inclusion 1: 025XY057NV
Inclusion 2: 024XY030NV
Inclusion 3: none
Inclusion 4: 025XY019NV

3017--Tecomar-Amtoft-Shivlum association

Composition

Major Components

Tecomar extremely gravelly loam, 8 to 30 percent slopes--45 percent
Amtoft extremely gravelly loam, 4 to 15 percent slopes--25 percent
Shivlum silt loam, 4 to 15 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--7 percent
Inclusion 2: Pibler very gravelly fine sandy loam, 2 to 8 percent slopes--5 percent
Inclusion 3: Belsac gravelly silt loam, 15 to 30 percent slopes--2 percent
Inclusion 4: Pamison gravelly loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Tecomar--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Amtoft--Landform: Hills; geomorphic position: summit; shape of slope: convex
Shivlum--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north
Inclusion 4--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Tecomar Series

Elevation: 6,000 to 7,700 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 45 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Amtoft Series

Elevation: 6,000 to 7,700 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Shivlum Series

Elevation: 6,000 to 7,700 feet
Precipitation: About 13 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from sedimentary rocks

Dominant Present Vegetation

Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Amtoft: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Shivlum: Basin big sagebrush
Inclusion 1: None
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Idaho fescue, mountain big sagebrush, snowberry
Inclusion 4: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Ecological Site

Tecomar: 024XY031NV
Amtoft: 025XY057NV
Shivlum: 025XY027NV
Inclusion 1: none
Inclusion 2: 024XY030NV
Inclusion 3: 025XY004NV
Inclusion 4: 024XY031NV

3018--Tecomar-Nirac-Kram association

Composition

Major Components

Tecomar extremely cobbly silt loam, 15 to 50 percent slopes--35 percent
Nirac gravelly silt loam, 15 to 30 percent slopes--30 percent
Kram very gravelly loam, 15 to 30 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Gollaher very gravelly loam, 4 to 15 percent slopes--5 percent
Inclusion 2: Ekim very gravelly loam, 15 to 50 percent slopes--4 percent
Inclusion 3: Hundraw gravelly fine sandy loam, 15 to 50 percent slopes--3 percent
Inclusion 4: Onkeyo very gravelly silty clay loam, 8 to 30 percent slopes--3 percent

Map Unit Setting

Landscape position: Hills
Tecomar--Landform: Hills; geomorphic position: summit; shape of slope: convex
Nirac--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Kram--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: concave

Major Component Description

Tecomar Series

Elevation: 6,400 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Nirac Series

Elevation: 6,400 to 7,400 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Kram Series

Elevation: 6,400 to 7,400 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Tecomar: Sandberg bluegrass, black sagebrush, bluebunch wheatgrass
Nirac: Idaho fescue, bluebunch wheatgrass
Kram: Utah juniper, black sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush
Inclusion 3: Utah juniper, black sagebrush
Inclusion 4: Bluebunch wheatgrass

Ecological Site

Tecomar: 024XY031NV
Nirac: 025XY012NV
Kram: 025XY060NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY009NV
Inclusion 3: 025XY060NV
Inclusion 4: 025XY042NV

3019--Tecomar-Hopeka-Ekim association

Composition

Major Components

Tecomar extremely cobbly silt loam, 30 to 50 percent slopes--40 percent
Hopeka very gravelly loam, 30 to 50 percent slopes--25 percent
Ekim gravelly silt loam, 30 to 50 percent slopes--20

percent
Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--8 percent
Inclusion 2: Loncan very gravelly loam, 30 to 50 percent slopes--4 percent
Inclusion 3: Rock outcrop--2 percent
Inclusion 4: Quarz gravelly loam, 30 to 50 percent slopes--1 percent

Map Unit Setting
Landscape position: Mountains
Tecomar--Landform: Mountains; geomorphic position: summit
Hopeka--Landform: Mountains; geomorphic position: summit
Ekim--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: summit
Inclusion 4--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: south

Major Component Description
Tecomar Series
Elevation: 6,500 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles; 45 percent gravel
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hopeka Series
Elevation: 6,500 to 7,300 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 10 percent cobbles; 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Ekim Series
Elevation: 6,500 to 7,300 feet
Precipitation: About 13 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation
Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Hopeka: Utah juniper, black sagebrush, singleleaf pinyon
Ekim: Basin wildrye, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, big sagebrush, bluebunch wheatgrass
Inclusion 2: Idaho fescue, antelope bitterbrush
Inclusion 3: None
Inclusion 4: Antelope bitterbrush, bluebunch wheatgrass

Ecological Site
Tecomar: 024XY031NV
Hopeka: 028BY060NV
Ekim: 025XY015NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY012NV
Inclusion 3: none
Inclusion 4: 025XY009NV

3020--Amtoft-Tecomar-Kzin association

Composition
Major Components
Amtoft extremely gravelly loam, 15 to 50 percent slopes--40 percent
Tecomar extremely stony silt loam, 15 to 50 percent slopes--35 percent
Kzin very gravelly loam, 15 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Izar very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Rock outcrop--4 percent
Inclusion 3: Jackpot loamy sand, 8 to 15 percent slopes--1 percent

Map Unit Setting
Landscape position: Hills

Amtoft--Landform: Hills; geomorphic position: summit; position on slope: upper; shape of slope: convex; aspect: south
Tecomar--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north
Kzin--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex; aspect: south
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Amtoft Series
Elevation: 5,400 to 6,600 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Tecomar Series
Elevation: 5,400 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Extremely stony silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Kzin Series
Elevation: 5,400 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent cobbles; 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from sedimentary rocks

Dominant Present Vegetation

Amtoft: Thurber needlegrass, black sagebrush
Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Kzin: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Inclusion 1: Indian ricegrass, black sagebrush, needleandthread
Inclusion 2: None
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, needleandthread

Ecological Site

Amtoft: 025XY057NV
Tecomar: 024XY031NV
Kzin: 028BY060NV
Inclusion 1: 028BY011NV
Inclusion 2: none
Inclusion 3: 024XY017NV

3021--Amtoft-Tecomar-Rock outcrop association

Composition

Major Components
Amtoft extremely stony loam, 15 to 50 percent slopes--50 percent
Tecomar extremely stony silt loam, 15 to 50 percent slopes--25 percent
Rock outcrop--10 percent
Contrasting Inclusions
Inclusion 1: Kram extremely stony loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Izar very stony loam, 15 to 30 percent slopes--5 percent
Inclusion 3: Soughe very stony loam, 15 to 50 percent slopes--4 percent
Inclusion 4: Lithic Xerollic Calciorthids, loamy-skeletal, carbonatic, mesic very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills
Amtoft--Landform: Hills; geomorphic position: summit; shape of slope: convex; aspect: south
Tecomar--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: north
Rock outcrop--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex

Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; aspect: south
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north

Major Component Description

Amtoft Series
Elevation: 4,900 to 6,000 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely stony loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Tecomar Series
Elevation: 4,900 to 6,000 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Extremely stony silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Rock outcrop Miscellaneous Area
Elevation: 5,400 to 6,000 feet

Dominant Present Vegetation

Amtoft: Black sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush
Inclusion 2: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 4: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Amtoft: 025XY057NV
Tecomar: 024XY031NV
Rock outcrop: None
Inclusion 1: 025XY060NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY015NV
Inclusion 4: 025XY021NV

3023--Amtoft-Jericho-Tecomar association

Composition

Major Components
Amtoft extremely gravelly loam, 15 to 50 percent slopes--35 percent
Jericho gravelly sandy loam, 4 to 15 percent slopes--30 percent
Tecomar extremely stony silt loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Kram very gravelly loam, 15 to 50 percent slopes--5 percent
Inclusion 2: Peeko silt loam, 4 to 15 percent slopes--5 percent
Inclusion 3: Lithic Xerollic Calciorthids, loamy-skeletal, carbonatic, mesic very gravelly loam--5 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Amtoft--Landform: Hills; geomorphic position: backslope; aspect: south
Jericho--Landform: Fan remnants; geomorphic position: summit
Tecomar--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Fan remnants; geomorphic position: summit
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex; aspect: south

Major Component Description

Amtoft Series
Elevation: 5,200 to 6,100 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium

derived from limestone and dolomite

Jericho Series
Elevation: 5,200 to 6,100 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Tecomar Series
Elevation: 5,200 to 6,100 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 10 percent cobbles; 30 percent gravel
Surface layer texture: Extremely stony silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Amtoft: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Jericho: Indian ricegrass, Wyoming big sagebrush, bottlebrush squirreltail
Tecomar: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush
Inclusion 2: Indian ricegrass, black sagebrush
Inclusion 3: Wyoming big sagebrush, bluebunch wheatgrass

Ecological Site

Amtoft: 025XY057NV
Jericho: 025XY019NV
Tecomar: 024XY031NV
Inclusion 1: 025XY060NV
Inclusion 2: 024XY030NV
Inclusion 3: 025XY015NV

3025--Amtoft-Arcia-Kram association

Composition

Major Components
Amtoft extremely gravelly loam, 15 to 50 percent slopes, flooded--55 percent
Arcia silt loam, 15 to 50 percent slopes--15 percent
Kram very gravelly loam, 15 to 50 percent slopes, flooded--15 percent
Contrasting Inclusions
Inclusion 1: Calciorthidic Haploxerolls, loamy-skeletal, mixed, frigid loam--10 percent
Inclusion 2: Calciorthidic Haploxerolls, coarse-loamy, mixed, frigid loam--2 percent
Inclusion 3: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid very gravelly loam--2 percent
Inclusion 4: Hapgood very gravelly loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Amtoft--Landform: Hills; geomorphic position: summit; shape of slope: convex
Arcia--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Kram--Landform: Hills; geomorphic position: backslope; shape of slope: plane
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: plane
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: concave; aspect: north

Major Component Description

Amtoft Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Arcia Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 75 days

Surface rock fragments: 5 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Kram Series
Elevation: 6,400 to 7,000 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Amtoft: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Arcia: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
Kram: Utah juniper, black sagebrush, bluebunch wheatgrass
Inclusion 1: Idaho fescue
Inclusion 2: Idaho fescue
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 4: Idaho fescue, slender wheatgrass, snowberry

Ecological Site

Amtoft: 025XY057NV
Arcia: 025XY012NV
Kram: 025XY060NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY027NV
Inclusion 3: 025XY017NV
Inclusion 4: 025XY004NV

3030--Cobre-Izar-Jackpot association

Composition

Major Components
Cobre silt loam, 4 to 15 percent slopes--40 percent
Izar very gravelly loam, 4 to 15 percent slopes--30 percent
Jackpot sandy loam, 4 to 15 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Puett gravelly sandy loam, 8 to 30 percent slopes--2 percent
Inclusion 2: Hundraw gravelly fine sandy loam, 8 to 30 percent slopes--3 percent
Inclusion 3: Tulase very fine sandy loam, 0 to 2 percent slopes--10 percent

Map Unit Setting

Landscape position: Hills
Cobre--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Izar--Landform: Hills; geomorphic position: summit; shape of slope: convex
Jackpot--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Drainageways

Major Component Description

Cobre Series
Elevation: 5,400 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Izar Series
Elevation: 5,400 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Jackpot Series
Elevation: 5,400 to 6,300 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained

Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Cobre: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Izar: Indian ricegrass, black sagebrush
Jackpot: Indian ricegrass, big sagebrush, needleandthread
Inclusion 1: Wyoming big sagebrush, black sagebrush
Inclusion 2: Utah juniper, black sagebrush
Inclusion 3: Indian ricegrass, Wyoming big sagebrush, needleandthread

Ecological Site

Cobre: 028BY010NV
Izar: 024XY030NV
Jackpot: 024XY017NV
Inclusion 1: 025XY025NV
Inclusion 2: 025XY060NV
Inclusion 3: 028BY010NV

3031--Cobre-Hundraw-Jackpot association

Composition

Major Components

Cobre silt loam, 4 to 15 percent slopes--50 percent
Hundraw gravelly fine sandy loam, 8 to 30 percent slopes, eroded--20 percent
Jackpot sandy loam, Jackpot sandy loam, 4 to 8 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Izar very gravelly loam, 8 to 30 percent slopes--5 percent
Inclusion 2: Puett gravelly sandy loam, 30 to 50 percent slopes--5 percent
Inclusion 3: Anowell gravelly loam, 4 to 15 percent slopes--3 percent
Inclusion 4: Gumble gravelly loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills
Cobre--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Jackpot--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: footslope

Major Component Description

Cobre Series

Elevation: 5,400 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Hundraw Series

Elevation: 5,400 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly fine sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Jackpot Series

Elevation: 5,400 to 6,100 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface layer texture: Sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Cobre: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Hundraw: Utah juniper, black sagebrush, bluebunch wheatgrass
Jackpot: Indian ricegrass, Wyoming big sagebrush, needleandthread
Inclusion 1: Indian ricegrass, black sagebrush, needleandthread
Inclusion 2: Indian ricegrass, Wyoming big

sagebrush, black sagebrush
Inclusion 3: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 4: Indian ricegrass, Wyoming big sagebrush, needleandthread

Ecological Site

Cobre: 028BY010NV
Hundraw: 025XY060NV
Jackpot: 024XY017NV
Inclusion 1: 028BY011NV
Inclusion 2: 025XY025NV
Inclusion 3: 024XY031NV
Inclusion 4: 028BY010NV

3032--Cobre-Hundraw-Anowell association

Composition

Major Components

Cobre silt loam, 2 to 8 percent slopes--35 percent
Hundraw gravelly loam, 2 to 8 percent slopes--35 percent
Anowell gravelly loam, 8 to 30 percent slopes--15 percent

Contrasting Inclusions

Inclusion 1: Hundraw gravelly fine sandy loam, 8 to 30 percent slopes--10 percent
Inclusion 2: Tulase very fine sandy loam, 2 to 4 percent slopes--2 percent
Inclusion 3: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow gravelly silt loam--2 percent
Inclusion 4: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow gravelly silt loam--1 percent

Map Unit Setting

Landscape position: Hills
Cobre--Landform: Hills; geomorphic position: backslope; position on slope: lower
Hundraw--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Anowell--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave

Major Component Description

Cobre Series

Elevation: 5,600 to 7,100 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Hundraw Series

Elevation: 5,600 to 7,100 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Anowell Series

Elevation: 5,600 to 7,100 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Cobre: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Hundraw: Indian ricegrass, Thurber needlegrass, black sagebrush
Anowell: Sandberg bluegrass, black sagebrush, bluebunch wheatgrass
Inclusion 1: Utah juniper, black sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Indian ricegrass, bottlebrush squirreltail, sickle saltbush
Inclusion 4: Indian ricegrass, big sagebrush, needleandthread

Ecological Site

Cobre: 025XY019NV

Hundraw: 024XY030NV
Anowell: 024XY031NV
Inclusion 1: 025XY060NV
Inclusion 2: 025XY019NV
Inclusion 3: 028BY047NV
Inclusion 4: 024XY017NV

3033--Cobre-Hundraw-Zapa association

Composition

Major Components

Cobre silt loam, 2 to 8 percent slopes--35 percent
Hundraw gravelly loam, 8 to 30 percent slopes--35 percent
Zapa very gravelly silt loam, 2 to 8 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Yuko silt loam, 2 to 8 percent slopes--7 percent
Inclusion 2: Anowell gravelly loam, 8 to 15 percent slopes--2 percent
Inclusion 3: Hundraw gravelly fine sandy loam, 15 to 50 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Cobre--Landform: Hills; geomorphic position: summit
Hundraw--Landform: Hills; geomorphic position: backslope; shape of slope: convex
Zapa--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper
Inclusion 2--Landform: Hills; geomorphic position: summit; position on slope: upper
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: convex

Major Component Description

Cobre Series

Elevation: 5,900 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Hundraw Series

Elevation: 5,900 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Zapa Series

Elevation: 5,900 to 6,400 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 55 percent gravel
Surface layer texture: Very gravelly silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Cobre: Wyoming big sagebrush, bluebunch wheatgrass, bottlebrush squirreltail
Hundraw: Indian ricegrass, black sagebrush
Zapa: Indian ricegrass, black sagebrush
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Thurber needlegrass, black sagebrush
Inclusion 3: Indian ricegrass, black sagebrush, juniper

Ecological Site

Cobre: 025XY019NV
Hundraw: 024XY030NV
Zapa: 024XY030NV
Inclusion 1: 025XY019NV
Inclusion 2: 024XY031NV
Inclusion 3: 025XY060NV

3036--Cobre-Enko association

Composition

Major Components

Cobre silt loam, 4 to 15 percent slopes--60 percent
Enko fine sandy loam, 2 to 8 percent slopes--25 percent

Contrasting Inclusions

Inclusion 1: Xerollic Camborthids, loamy-skeletal, mixed, mesic, shallow gravelly loam--6 percent
Inclusion 2: Hundraw very cobbly silt loam, 8 to 30 percent slopes--3 percent

Inclusion 3: Pibler very gravelly loam, 2 to 8 percent slopes--3 percent
Inclusion 4: Kzin very gravelly loam, 4 to 15 percent slopes--3 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Cobre--Landform: Pediments; geomorphic position: summit
Enko--Landform: Inset fans
Inclusion 1--Landform: Hills; geomorphic position: backslope
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: upper; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: summit
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Cobre Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 45 degrees
Frost-free season: About 110 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Enko Series
Elevation: 6,000 to 6,500 feet
Precipitation: About 9 inches
Air temperature: About 48 degrees
Frost-free season: About 110 days
Surface rock fragments: 2 percent gravel
Surface layer texture: Fine sandy loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Cobre: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Enko: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail
Inclusion 1: Thurber needlegrass, Wyoming big sagebrush
Inclusion 2: Utah juniper, black sagebrush
Inclusion 3: Indian ricegrass, Thurber needlegrass, black sagebrush
Inclusion 4: Thurber needlegrass, Utah juniper, black sagebrush, singleleaf pinyon

Ecological Site

Cobre: 025XY019NV
Enko: 025XY019NV
Inclusion 1: 025XY019NV
Inclusion 2: 025XY060NV
Inclusion 3: 024XY030NV
Inclusion 4: 028BY060NV

3040--Player-McIvey-Hogmalat association

Composition

Major Components
Player gravelly loam, 30 to 50 percent slopes--45 percent
McIvey gravelly loam, 15 to 50 percent slopes--20 percent
Hogmalat very gravelly loam, 15 to 50 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Typic Haploxerolls, loamy-skeletal, mixed, frigid very gravelly loam--8 percent
Inclusion 2: Argic Cryoborolls, loamy-skeletal, mixed very gravelly loam, 15 to 30 percent slopes--3 percent
Inclusion 3: Entic Cryumbrepts, loamy-skeletal, mixed gravelly loam--2 percent
Inclusion 4: Cleavage extremely gravelly loam, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Mountains
Player--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
McIvey--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Hogmalat--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Inclusion 1--Landform: Mountains; geomorphic position: backslope; position on slope: upper; shape of slope: concave
Inclusion 2--Landform: Mountains; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 3--Landform: Mountains; geomorphic position: backslope; shape of slope: concave
Inclusion 4--Landform: Mountains; geomorphic position: summit

Major Component Description

Player Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 75 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks

McIvey Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 14 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from volcanic rocks

Hogmalat Series
Elevation: 6,100 to 7,000 feet
Precipitation: About 20 inches
Air temperature: About 43 degrees
Frost-free season: About 50 days
Surface rock fragments: 5 percent cobbles; 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from volcanic rocks

Dominant Present Vegetation

Player: Black sagebrush, bluebunch wheatgrass
McIvey: Idaho fescue, mountain big sagebrush
Hogmalat: Idaho fescue, curlleaf mountainmahogany, mountain big sagebrush
Inclusion 1: Thurber needlegrass, bluebunch wheatgrass, curlleaf mountainmahogany
Inclusion 2: Idaho fescue, snowberry, snowbrush ceanothus
Inclusion 3: Mountain brome, quaking aspen, slender wheatgrass
Inclusion 4: Idaho fescue, black sagebrush, low sagebrush

Ecological Site

Player: 025XY055NV
McIvey: 025XY012NV
Hogmalat: 028BY043NV
Inclusion 1: 028BY042NV
Inclusion 2: 025XY052NV
Inclusion 3: 025XY002NV
Inclusion 4: 025XY024NV

3070--Arva-Chen-Sumine association

Composition

Major Components
Arva gravelly loam, 8 to 30 percent slopes--45 percent
Chen very gravelly loam, 8 to 30 percent slopes--25 percent
Sumine very gravelly loam, 30 to 50 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Arcia silt loam, 15 to 50 percent slopes--10 percent
Inclusion 2: Cleavage extremely gravelly loam, 8 to 30 percent slopes--3 percent
Inclusion 3: Crooked Creek silty clay loam, 0 to 2 percent slopes, rarely flooded--1 percent
Inclusion 4: Crooked Creek silty clay loam, 0 to 2 percent slopes, occasionally flooded--1 percent

Map Unit Setting

Landscape position: Mountains
Arva--Landform: Mountains; geomorphic position: backslope; shape of slope: convex
Chen--Landform: Mountains; geomorphic position: summit; position on slope: upper; shape of slope: convex
Sumine--Landform: Mountains; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 2--Landform: Mountains; geomorphic position: summit
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Drainageways

Major Component Description

Arva Series
Elevation: 6,100 to 6,900 feet
Precipitation: About 14 inches
Air temperature: About 44 degrees
Frost-free season: About 80 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from sedimentary rocks

Chen Series
Elevation: 6,100 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 40 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Colluvium derived from quartzite

Sumine Series
Elevation: 6,100 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 60 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from quartzite

Dominant Present Vegetation

Arva: Idaho fescue, basin big sagebrush, bluebunch wheatgrass
Chen: Idaho fescue, Sandberg bluegrass, low sagebrush
Sumine: Bluebunch wheatgrass
Inclusion 1: Idaho fescue, antelope bitterbrush, mountain big sagebrush
Inclusion 2: Black sagebrush, bluebunch wheatgrass, low sagebrush
Inclusion 3: Nevada bluegrass, basin wildrye
Inclusion 4: Nevada bluegrass, alpine timothy, willow

Ecological Site

Arva: 025XY027NV
Chen: 025XY017NV
Sumine: 025XY009NV
Inclusion 1: 025XY012NV
Inclusion 2: 025XY024NV
Inclusion 3: 025XY003NV
Inclusion 4: 025XY006NV

3080--Fenelon-Lerrow Variant-Cotant association

Composition

Major Components
Fenelon gravelly silt loam, 4 to 15 percent slopes--40 percent
Lerrow Variant gravelly loam, 4 to 15 percent slopes--30 percent
Cotant gravelly clay loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Crooked Creek silty clay loam, 0 to 2 percent slopes, occasionally flooded--7 percent
Inclusion 2: Shalcleav very gravelly loam, 4 to 15 percent slopes--2 percent
Inclusion 3: Igdell very gravelly loam, 2 to 8 percent slopes--1 percent

Map Unit Setting

Landscape position: Fan piedmonts
Fenelon--Landform: Pediments; geomorphic position: summit; position on slope: lower; shape of slope: convex
Lerrow Variant--Landform: Fan remnants; geomorphic position: summit; position on slope: upper; shape of slope: concave
Cotant--Landform: Pediments; geomorphic position: summit; shape of slope: plane
Inclusion 1--Landform: Drainageways
Inclusion 2--Landform: Hills
Inclusion 3--Landform: Fan remnants; geomorphic position: summit

Major Component Description

Fenelon Series
Elevation: 6,200 to 6,700 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Lerrow Variant Series
Elevation: 6,200 to 6,700 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 95 days
Surface rock fragments: 10 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Cotant Series
Elevation: 6,200 to 6,700 feet

Precipitation: About 14 inches
Air temperature: About 42 degrees
Frost-free season: About 85 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Fenelon: Black sagebrush, bluebunch wheatgrass
Lerrow Variant: Idaho fescue, bluebunch wheatgrass, serviceberry
Cotant: Idaho fescue, Sandberg bluegrass, low sagebrush
Inclusion 1: Nevada bluegrass, alpine timothy, willow
Inclusion 2: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 3: Idaho fescue, bluebunch wheatgrass, low sagebrush

Ecological Site

Fenelon: 024XY031NV
Lerrow Variant: 025XY046NV
Cotant: 025XY017NV
Inclusion 1: 025XY006NV
Inclusion 2: 025XY057NV
Inclusion 3: 025XY017NV

3081--Fenelon-Gochea association

Composition

Major Components

Fenelon gravelly silt loam, 8 to 30 percent slopes--55 percent
Gochea loam, 4 to 15 percent slopes--30 percent

Contrasting Inclusions

Inclusion 1: Donna very gravelly loam, 2 to 8 percent slopes--10 percent
Inclusion 2: Coser gravelly clay loam, 4 to 15 percent slopes--2 percent
Inclusion 3: Crooked Creek silty clay loam, drained, 0 to 2 percent slopes, rarely flooded--2 percent
Inclusion 4: Shalcleav very gravelly sandy loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Fenelon--Landform: Hills; geomorphic position: summit; shape of slope: convex
Gochea--Landform: Fan remnants; geomorphic position: summit; position on slope: lower; shape of slope: plane
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Pediments; geomorphic position: summit; shape of slope: concave
Inclusion 3--Landform: Drainageways
Inclusion 4--Landform: Pediments; geomorphic position: summit; shape of slope: convex

Major Component Description

Fenelon Series

Elevation: 6,100 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Gochea Series

Elevation: 6,100 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Fenelon: Black sagebrush, bluebunch wheatgrass
Gochea: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, bluebunch wheatgrass, low sagebrush
Inclusion 2: Idaho fescue, bluebunch wheatgrass, low sagebrush
Inclusion 3: Nevada bluegrass, basin wildrye
Inclusion 4: Thurber needlegrass, black sagebrush, bluebunch wheatgrass

Ecological Site

Fenelon: 024XY031NV
Gochea: 025XY014NV
Inclusion 1: 025XY018NV
Inclusion 2: 025XY017NV
Inclusion 3: 025XY003NV
Inclusion 4: 025XY057NV

3100--Kleckner-Stampede association

Composition

Major Components

Kleckner silt loam, 2 to 8 percent slopes--50 percent
Stampede gravelly loam, 2 to 8 percent slopes--35 percent

Contrasting Inclusions

Inclusion 1: Kleckner silt loam, 15 to 30 percent slopes--8 percent
Inclusion 2: Gance very gravelly loam, 8 to 15 percent slopes--5 percent
Inclusion 3: Wiffo very gravelly loam, 2 to 8 percent slopes--2 percent

Map Unit Setting

Landscape position: Fan piedmonts
Kleckner--Landform: Fan remnants; geomorphic position: summit
Stampede--Landform: Fan remnants; geomorphic position: summit
Inclusion 1--Landform: Fan remnants; geomorphic position: backslope
Inclusion 2--Landform: Fan remnants; geomorphic position: backslope
Inclusion 3--Landform: Inset fans

Major Component Description

Kleckner Series

Elevation: 6,100 to 6,500 feet
Precipitation: About 11 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 15 percent gravel
Surface layer texture: Silt loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Stampede Series

Elevation: 6,100 to 6,500 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks

Dominant Present Vegetation

Kleckner: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Stampede: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Thurber needlegrass, Wyoming big sagebrush, basin wildrye

Ecological Site

Kleckner: 025XY014NV
Stampede: 025XY014NV
Inclusion 1: 025XY014NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY019NV

4000--Wicup-Anowell-Kzin association

Composition

Major Components

Wicup silty clay loam, 2 to 8 percent slopes--50 percent
Anowell gravelly loam, 2 to 8 percent slopes--20 percent
Kzin very gravelly loam, 4 to 15 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Lithic Argixerolls, clayey-skeletal, montmorillonitic, mesic very gravelly loam--5 percent
Inclusion 2: Gumble gravelly sandy loam, 2 to 8 percent slopes--4 percent
Inclusion 3: Fenelon gravelly silt loam, 4 to 15 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Wicup--Landform: Hills; geomorphic position: summit; shape of slope: concave
Anowell--Landform: Hills; geomorphic position: summit
Kzin--Landform: Hills; geomorphic position: summit; shape of slope: convex
Inclusion 1--Landform: Hills; geomorphic position: summit
Inclusion 2--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: convex
Inclusion 3--Landform: Fan remnants; geomorphic position: backslope; shape of slope: plane

Major Component Description

Wicup Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 11 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Anowell Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 10 inches
Air temperature: About 46 degrees
Frost-free season: About 110 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Kzin Series
Elevation: 5,700 to 6,200 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 90 days
Surface rock fragments: 35 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Wicup: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass
Anowell: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Kzin: Utah juniper, black sagebrush, bluebunch wheatgrass, singleleaf pinyon
Inclusion 1: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Black sagebrush, bluebunch wheatgrass

Ecological Site

Wicup: 025XY014NV
Anowell: 024XY031NV
Kzin: 028BY060NV
Inclusion 1: 025XY057NV
Inclusion 2: 025XY019NV
Inclusion 3: 024XY031NV

4001--Wicup-Fenelon-Akler association

Composition

Major Components
Wicup silty clay loam, 2 to 8 percent slopes--40 percent
Fenelon gravelly silt loam, 4 to 15 percent slopes--30 percent
Akler loam, 4 to 15 percent slopes--20 percent
Contrasting Inclusions
Inclusion 1: Xerollic Haplargids, loamy-skeletal, mixed, frigid, shallow gravelly loam--7 percent
Inclusion 2: Crooked Creek silty clay loam, 0 to 2 percent slopes, occasionally flooded--2 percent
Inclusion 3: Shivlum silt loam, 15 to 30 percent slopes--1 percent

Map Unit Setting

Landscape position: Hills
Wicup--Landform: Hills; geomorphic position: summit; shape of slope: concave
Fenelon--Landform: Hills; geomorphic position: summit; shape of slope: convex
Akler--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; shape of slope: concave
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north

Major Component Description

Wicup Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface layer texture: Silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Fenelon Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 85 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam

Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks, loess and volcanic ash

Akler Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Residuum derived from tuffaceous rocks

Dominant Present Vegetation

Wicup: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Fenelon: Thurber needlegrass, black sagebrush, bluebunch wheatgrass
Akler: Sandberg bluegrass, bottlebrush squirreltail, low sagebrush
Inclusion 1: Indian ricegrass, black sagebrush
Inclusion 2: Nevada bluegrass, alpine timothy, willow
Inclusion 3: Antelope bitterbrush, bluebunch wheatgrass

Ecological Site

Wicup: 025XY014NV
Fenelon: 024XY031NV
Akler: 025XY018NV
Inclusion 1: 025XY060NV
Inclusion 2: 025XY006NV
Inclusion 3: 025XY012NV

4002--Wicup-Gochea-Gumble association

Composition

Major Components
Wicup silty clay loam, 4 to 15 percent slopes--45 percent
Gochea loam, 2 to 8 percent slopes--30 percent
Gumble gravelly sandy loam, 2 to 8 percent slopes--15 percent
Contrasting Inclusions
Inclusion 1: Akler loam, 2 to 8 percent slopes--5 percent
Inclusion 2: Gance very gravelly clay loam, 8 to 30 percent slopes--3 percent
Inclusion 3: Scalfar very gravelly loam, gravelly substratum, 4 to 15 percent slopes--2 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Wicup--Landform: Fan remnants; geomorphic position: summit; shape of slope: convex
Gochea--Landform: Fan remnants; geomorphic position: backslope; shape of slope: concave
Gumble--Landform: Pediments; geomorphic position: summit; position on slope: lower
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: upper; aspect: north
Inclusion 2--Landform: Fan remnants
Inclusion 3--Landform: Hills

Major Component Description

Wicup Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 45 degrees
Frost-free season: About 90 days
Surface rock fragments: 5 percent gravel
Surface layer texture: Silty clay loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Gochea Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Loam
Drainage class: Well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Gumble Series
Elevation: 5,900 to 6,600 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Dominant Present Vegetation

Wicup: Thurber needlegrass, Wyoming big sagebrush, bluebunch wheatgrass
Gochea: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass

Gumble: Sandberg bluegrass, Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, bluebunch wheatgrass, low sagebrush
Inclusion 2: Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: Black sagebrush, bluebunch wheatgrass

Ecological Site

Wicup: 025XY014NV
Gochea: 025XY014NV
Gumble: 025XY019NV
Inclusion 1: 025XY018NV
Inclusion 2: 025XY019NV
Inclusion 3: 025XY057NV

4020--Akler-Cleavage-Elocin association

Composition

Major Components

Akler very gravelly loam, 15 to 30 percent slopes--40 percent
Cleavage very gravelly loam, 15 to 30 percent slopes--30 percent
Elocin gravelly silt loam, 4 to 15 percent slopes, occasionally flooded--20 percent

Contrasting Inclusions

Inclusion 1: Typic Argixerolls, fine-loamy, mixed, frigid gravelly loam--7 percent
Inclusion 2: Rock outcrop--2 percent
Inclusion 3: Lithic Argixerolls, loamy-skeletal, mixed, frigid very gravelly loam--1 percent

Map Unit Setting

Landscape position: Hills and intermontane basins
Akler--Landform: Hills; geomorphic position: summit; aspect: south
Cleavage--Landform: Hills; geomorphic position: backslope; aspect: north
Elocin--Landform: Fan remnants
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower
Inclusion 2--Landform: Hills; geomorphic position: summit
Inclusion 3--Landform: Hills

Major Component Description

Akler Series

Elevation: 6,200 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 42 degrees
Frost-free season: About 90 days
Surface rock fragments: 25 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum derived from tuffaceous rocks

Cleavage Series

Elevation: 6,200 to 6,600 feet
Precipitation: About 12 inches
Air temperature: About 44 degrees
Frost-free season: About 90 days
Surface rock fragments: 50 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sandstone

Elocin Series

Elevation: 6,200 to 6,600 feet
Precipitation: About 11 inches
Air temperature: About 44 degrees
Frost-free season: About 85 days
Surface rock fragments: 30 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Dominant Present Vegetation

Akler: Sandberg bluegrass, bluebunch wheatgrass, low sagebrush
Cleavage: Idaho fescue, Sandberg bluegrass, low sagebrush
Elocin: Sandberg bluegrass, bluebunch wheatgrass, low sagebrush
Inclusion 1: Idaho fescue, basin big sagebrush
Inclusion 2: None
Inclusion 3: Thurber needlegrass, basin big sagebrush, bluebunch wheatgrass

Ecological Site

Akler: 025XY018NV
Cleavage: 025XY017NV
Elocin: 025XY018NV
Inclusion 1: 025XY027NV
Inclusion 2: none
Inclusion 3: 025XY014NV

4040--Kram-Amtoft-Nirac association

Composition

Major Components

Kram very gravelly loam, 15 to 50 percent slopes--45 percent

Amtoft extremely gravelly loam, 15 to 50 percent slopes--20 percent
Nirac gravelly silt loam, 15 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Aridic Argixerolls, loamy-skeletal, mixed, mesic very gravelly loam--8 percent
Inclusion 2: Lithic Haploxerolls, loamy-skeletal, mixed, mesic very gravelly loam--3 percent
Inclusion 3: Lithic Xerollic Calciorthids, loamy-skeletal, carbonatic, mesic very gravelly loam--3 percent
Inclusion 4: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Kram--Landform: Hills; geomorphic position: backslope; aspect: south
Amtoft--Landform: Hills; geomorphic position: backslope; aspect: north
Nirac--Landform: Hills; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 1--Landform: Hills; geomorphic position: backslope; position on slope: lower; shape of slope: concave
Inclusion 2--Landform: Hills; geomorphic position: backslope; shape of slope: plane; aspect: north
Inclusion 3--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 4--Landform: Hills; geomorphic position: summit

Major Component Description

Kram Series

Elevation: 5,600 to 6,900 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Amtoft Series

Elevation: 5,600 to 6,900 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 115 days
Surface rock fragments: 15 percent cobbles; 70 percent gravel
Surface layer texture: Extremely gravelly loam
Drainage class: Somewhat excessively drained
Dominant parent material: Residuum and colluvium derived from sedimentary rocks

Nirac Series

Elevation: 5,600 to 6,900 feet
Precipitation: About 12 inches
Air temperature: About 43 degrees
Frost-free season: About 90 days
Surface rock fragments: 20 percent gravel
Surface layer texture: Gravelly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Kram: Utah juniper, black sagebrush, bluebunch wheatgrass
Amtoft: Sandberg bluegrass, Thurber needlegrass, black sagebrush
Nirac: Idaho fescue, snowberry
Inclusion 1: Idaho fescue
Inclusion 2: Wyoming big sagebrush, bluebunch wheatgrass
Inclusion 3: Basin big sagebrush, bluebunch wheatgrass
Inclusion 4: None

Ecological Site

Kram: 025XY060NV
Amtoft: 025XY057NV
Nirac: 025XY012NV
Inclusion 1: 025XY027NV
Inclusion 2: 025XY021NV
Inclusion 3: 025XY015NV
Inclusion 4: none

4041--Kram-Tecomar association

Composition

Major Components

Kram very gravelly loam, 30 to 50 percent slopes--65 percent
Tecomar extremely cobbly silt loam, 30 to 50 percent slopes--20 percent

Contrasting Inclusions

Inclusion 1: Rock outcrop--8 percent
Inclusion 2: Loncan very gravelly loam, 30 to 50 percent slopes--4 percent
Inclusion 3: Lithic Xerollic Camborthids, loamy-skeletal, mixed, frigid very gravelly loam--3 percent

Map Unit Setting

Landscape position: Mountains
Kram--Landform: Mountains; geomorphic position: summit
Tecomar--Landform: Mountains; geomorphic position: backslope
Inclusion 1--Landform: Mountains; geomorphic position: summit
Inclusion 2--Landform: Mountains; geomorphic position: backslope; shape of slope: concave; aspect: north
Inclusion 3--Landform: Mountains; geomorphic position: backslope; position on slope: lower

Major Component Description

Kram Series
Elevation: 5,800 to 7,200 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Tecomar Series
Elevation: 5,800 to 7,200 feet
Precipitation: About 12 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 25 percent cobbles
Surface layer texture: Extremely cobbly silt loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Dominant Present Vegetation

Kram: Utah juniper, black sagebrush, bluebunch wheatgrass
Tecomar: Black sagebrush, bluebunch wheatgrass
Inclusion 1: None
Inclusion 2: Idaho fescue, antelope bitterbrush
Inclusion 3: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass

Ecological Site

Kram: 025XY060NV
Tecomar: 024XY031NV
Inclusion 1: none
Inclusion 2: 025XY012NV
Inclusion 3: 025XY007NV

4042--Kram-Hooplite-Yuko association

Composition

Major Components
Kram very gravelly loam, 4 to 15 percent slopes--30 percent
Hooplite very gravelly loam, 15 to 50 percent slopes--30 percent
Yuko gravelly sandy loam, 15 to 50 percent slopes--25 percent
Contrasting Inclusions
Inclusion 1: Aridic Haploxerolls, loamy, mixed, frigid, shallow very gravelly loam--10 percent
Inclusion 2: Xerollic Haplargids, fine-loamy, mixed, mesic gravelly silt loam--4 percent
Inclusion 3: Rock outcrop--1 percent

Map Unit Setting

Landscape position: Hills
Kram--Landform: Hills; geomorphic position: summit
Hooplite--Landform: Hills; geomorphic position: backslope
Yuko--Landform: Hills; geomorphic position: backslope; aspect: south
Inclusion 1--Landform: Hills; geomorphic position: backslope; aspect: north
Inclusion 2--Landform: Drainageways
Inclusion 3--Landform: Hills; geomorphic position: summit

Major Component Description

Kram Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 11 inches
Air temperature: About 46 degrees
Frost-free season: About 90 days
Surface rock fragments: 65 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from limestone and dolomite

Hooplite Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 9 inches
Air temperature: About 47 degrees
Frost-free season: About 100 days
Surface rock fragments: 70 percent gravel
Surface layer texture: Very gravelly loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Yuko Series
Elevation: 5,500 to 6,000 feet
Precipitation: About 10 inches
Air temperature: About 47 degrees
Frost-free season: About 110 days
Surface rock fragments: 5 percent cobbles; 30 percent gravel
Surface layer texture: Gravelly sandy loam
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from tuffaceous rocks

Dominant Present Vegetation

Kram: Utah juniper, black sagebrush, bluebunch wheatgrass
Hooplite: Thurber needlegrass, black sagebrush
Yuko: Wyoming big sagebrush, basin wildrye, bluebunch wheatgrass
Inclusion 1: Thurber needlegrass, black sagebrush
Inclusion 2: Sandberg bluegrass, Thurber needlegrass, Wyoming big sagebrush
Inclusion 3: None

Ecological Site

Kram: 025XY060NV
Hooplite: 025XY057NV
Yuko: 025XY015NV
Inclusion 1: 024XY031NV
Inclusion 2: 025XY019NV
Inclusion 3: none

4050--Water

Composition

Major Components
Water--100 percent

Map Unit Setting

Landscape position: Mountains and intermontane basins
Water--Landform: Depressions

Major Component Description

Water Miscellaneous Area
Elevation: 4,700 to 8,700 feet

Ecological Site

Water: None

Prime Farmland

Prime Farmland and Other Important Farmland

In this section, prime farmland and other important farmland are defined. The map units in the survey area that are considered prime farmland are listed under "Prime Farmland Map Units" at the end of this section.

Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, seed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment

Prime farmland soils may presently be used as cropland, pasture, woodland or for other purposes. They are used for food and fiber or are available for these uses. Urban or built-up land and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils that have a high water table, are subject to flooding, or are droughty may qualify as prime farmland where these limitations are overcome by drainage measures, flood control, or irrigation. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 19,530 acres, or nearly 0.9 percent of the survey area, would meet the requirements for prime farmland if an adequate and dependable supply of irrigation water were available.

The map units in the survey area that meet the requirements for prime farmland are listed under "Prime Farmland Map Units." On some soils included in the list, measures that overcome limitations are needed. The location of each map unit is shown on the detailed soil maps at the back of this publication. This list does not constitute a recommendation for a particular land use.

Unique Farmland

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil qualities, location, growing season, and moisture supply needed for the economic production of sustained high yields of a specific high-quality crop when treated and managed by acceptable farming methods. Examples of such crops are citrus, tree nuts, olives, cranberries, and vegetables.

Unique farmland is used for a specific high-value food or fiber crop; has an adequate supply of available moisture for the specific crop because of stored moisture, precipitation, or irrigation; and has a combination of soil qualities, growing season, temperature, humidity, air drainage, elevation, aspect, and other factors, such as nearness to markets, that favor the production of a specific food or fiber crop.

Lists of unique farmland are developed as needed in cooperation with conservation districts and other entities. There are presently no soils recognized as unique farmland in Nevada.

Additional Farmland of Statewide Importance

Some areas other than areas of prime and unique farmland are of statewide importance in the production of food, feed, fiber, forage, and oilseed crops. The criteria used in defining and delineating these areas are determined by the appropriate State agency or agencies. Generally, additional farmland of statewide importance includes areas that nearly meet the criteria for prime farmland and that economically produce high yields of crops when treated and managed by acceptable farming methods. Some areas can produce as high a yield as areas of prime farmland if conditions are favorable. In some states additional farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

Nevada has designated any farmland that is irrigated to be of statewide importance.

Prime Farmland Map Units

The following map units are prime farmland where irrigated with an adequate and dependable water supply:

34 Welch-Crooked Creek association, dry
480 Devilsgait-Kelk association
521 Halleck, gravelly substratum-Halleck association

The following map units are prime farmland where they are irrigated with an adequate and dependable supply of water, and they are reclaimed:

580 Kelk-Sonoma association
590 Valmy-Enko association

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 14, "Classification of the Soils," in Part II of this Publication shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Xeroll *(Xer, meaning xeric, plus oll, from Mollisol).*

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Argixeroll. *(Argi, meaning presence of argillic horizon, plus xeroll, the suborder of the Mollisols that hava a xeric moisture regime).*

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Argixerolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, thickness of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is loamy-skeletal, mixed, frigid, Typic Argixerolls.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Taxonomic Units and Their Morphology

In this section, each taxonomic unit recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each unit. A pedon, a small three-dimensional area of soil, that is typical of the unit in the survey area is described. The detailed description of each soil horizon follow standards in the "Soil Survey Manual"(18). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy"(20). Unless otherwise stated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the unit.

The map units of each taxonomic unit are

described in the section "Detailed Soil Map Units".

Ackett Series

The Ackett series consists of well drained soils that are shallow to a duripan, formed in alluvium and colluvium from welded tuff, loess, and volcanic ash. Ackett soils are on fan remnants and hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, mesic, shallow Xerollic Durargids

Typical pedon: Ackett very gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 674. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles and 5 percent cobbles.

A--0 to 2 inches; grayish brown (10YR 5/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thick platy structure; slightly hard, very friable, moderately sticky and slightly plastic; few very fine and fine roots; many very fine and fine vesicular pores; 50 percent pebbles of which 5 percent are duripan fragments; slightly alkaline (pH 7.8); clear smooth boundary.

Bt--2 to 5 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, firm, sticky and plastic; common very fine and fine, and few medium and coarse roots; common very fine tubular pores; few thin clay films lining pores; 5 percent pebble size duripan fragments; slightly alkaline (pH 7.8); clear smooth boundary.

2Btkq--5 to 8 inches; brown (10YR 5/3) extremely cobbly clay, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine through medium roots; common very fine tubular pores; few thin clay films lining pores; 20 percent pebbles and 40 percent cobbles, of which 90 percent are duripan fragments; moderately alkaline (pH 8.2; clear smooth boundary.

2Btk--8 to 13 inches; light gray (10YR 7/2) extremely cobbly clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; common thin clay films lining pores; 40 percent pebbles and 35 percent cobbles, of which 90 percent are duripan fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2Bqkm1--13 to 25 inches; white (10YR 8/1) indurated duripan with a 1 to 4 mm thick fractured discontinuous silica laminar cap, fractures greater than 4 inches apart; few very fine and fine roots in fractures; violently effervescent; clear wavy boundary.

2Bqkm2--25 to 51 inches; white (10YR 8/1) indurated duripan with a 1 to 3 mm thick continuous silica laminar cap; violently effervescent; abrupt wavy boundary.

3Bkq--51 to 61 inches; light gray (10YR 7/2) coarse sandy loam, brown (10YR 5/3) moist; massive; hard, firm and brittle, slightly sticky and slightly plastic; common very fine tubular pores; 50 percent discontinuous strongly silica cemented; 10 percent pebbles of which 5 percent are duripan fragments; continuous brittle matrix; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

R--61 inches; tuffaceous rock.

Type location: Elko County, Nevada; approximately 3 1/2 miles west of Jackpot; about 2,000 feet west and 1,000 feet south of the northeast corner of section 9, T. 47 N., R. 64 E.; (41 degrees, 58 minutes, 45 seconds north latitude, 114 degrees, 43 minutes, 15 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June through October.
Soil temperature: 47 to 50 degrees F.
Depth to duripan: 10 to 20 inches
Depth to carbonates: 5 to 14 inches
Depth to bedrock: More than 60 inches
Fragments above duripan: Dominantly fractured indurated pan fragments

A horizon:
Value--5 or 6 dry, 4 or 5 moist
Chroma--2 or 3.

Bt horizon:
Value--5 or 6 dry, 4 or 5 moist
Chroma--3 or 4.
Texture--Clay loam, clay or gravelly clay loam.
Clay content--35 to 50 percent
Rock fragments--5 to 30 percent, mostly pebbles.

2Btkq and 2Btk horizons:
Value--5 to 7 dry, 4 to 7 moist
Chroma--2 to 4 dry or moist
Texture--Very cobbly clay, extremelly cobbly clay, very cobbly clay loam, extremelly cobbly clay loam, extremelly gravelly clay, extremelly gravelly clay loam, very gravelly clay loam
Clay content--35 to 55 percent
Rock fragments--40 to 80 percent.
Carbonates--20 to 30 percent calcium carbonate equivalent
Structure--Massive or subangular blocky.

2Bqkm horizon:
Value--7 or 8 dry
Chroma--1 through 3 dry or moist
Distance between fractures--4 to 30 inches
Width of fractures--1/4 inch or less

3Bkq horizon:
Texture--Extremely gravelly sand,coarse sandy loam, gravelly coarse sandy loam, and gravelly sandy loam.
Reaction--Moderately alkaline or strongly alkaline.

Affey Series

The Affey series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed rocks and volcanic ash. The Affey soils are on summits and side slopes of fan remnants. Slopes are 4 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Durargidic Argixerolls

Typical pedon: Affey gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 850. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles.

A1--0 to 9 inches; grayish brown (10YR 5/2) gravelly 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, few fine, and medium tubular pores; 20 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

A2--9 to 12 inches; grayish brown (10YR 5/2) gravelly 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; many very fine, few fine and medium tubular pores; 20 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bt1--12 to 21 inches; brown (10YR 5/3) gravelly clay loam, dark brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate medium angular blocky; hard, firm, moderately sticky and very plastic; few very fine, fine and medium roots; many very fine, common fine and few medium tubular pores; many slickensides on faces of peds; many very fine manganese concretions; 25 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2--21 to 24 inches; yellowish brown (10YR 5/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium angular blocky structure; hard, firm, very sticky and very plastic; few very fine, fine and medium roots; many very fine, common fine and few medium tubular pores; many slickensides on faces of ped; many very fine manganese concretions; 55 percent pebbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

Btk1--24 to 31 inches; yellowish brown (10YR 5/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium prismatic structure; hard, firm, very sticky and very plastic; few very fine, fine, medium and coarse roots; many very fine, common fine, and few medium tubular pores; many slickensides on faces of peds; many very fine manganese concretions; common, fine, segregated lime in seams; 40 percent pebbles; noneffervescent matrix; slightly alkaline (pH 7.6); abrupt wavy boundary.

Btk2--31 to 34 inches; yellowish brown (10YR 5/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium prismatic structure; hard, firm, very sticky and very plastic; few very fine, fine, medium and coarse roots; many very fine, common fine and few medium tubular pores; many slickensides on faces of peds; many very fine manganese concretions; 35 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bqk--34 to 60 inches; very pale brown (10YR 7/3) extremely gravelly clay loam, brown (10YR 4/3) moist; massive; hard, firm and brittle, slightly sticky and slightly plastic; many very fine and fine tubular pores; up to 50 percent horizontal discontinuous strongly silica cemented lenses; common fine segregated lime in seams, filaments, and few fine soft masses; common thin to moderately thick silica pendants on undersides of pebbles; 65 percent pebbles, 5 percent cobbles; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 30 miles north of Pequop; about one mile and 2,970 feet north and 875 feet east of the northwest corner of section 1 T. 42 N., R. 65 E.; (41 degrees, 34 minutes, 52 seconds north latitude, 114 degrees, 33 minutes, 48 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in the winter and spring, dry from early July through October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 10 to 16 inches, may include the upper part of argillic horizon.
Depth to pedogenic lime: 18 to 39 inches.
Depth to the Bq horizon: 26 to 39 inches.
Control section:
Clay content--35 to 50 percent.
Rock fragments--Averages 35 to 50, mainly pebbles with up to 10 percent cobbles and stones.

A horizon:
Value--4 or 5 dry, 3 or 4 moist.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bt horizons:
Hue--7.5YR or 10YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Gravelly clay loam in the upper subhorizon and very gravelly clay loam or very gravelly clay in the lower subhorizons.
Clay content--35 to 50 percent.
Structure--Prismatic or angular blocky.
Reaction--Neutral or slightly alkaline.

Btk horizons:
Hue--10YR or 7.5YR.
Value--5 or 6 dry, 3 through 5 moist.
Clay content--40 to 50 percent.
Structure--Prismatic or angular blocky.
Reaction--Slightly alkaline or moderately alkaline.

Bqk horizons:
Hue--10YR or 7.5YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Consistence--Hard or very hard and brittle.
Reaction--Moderately alkaline or strongly alkaline.
Cementation--Continuous brittle matrix, with up to 50 percent thin to thick bands or lenses of discontinuous strong silica cemented material.

Agassiz Series

The Agassiz series consists of shallow, somewhat excessively drained soils that formed in residuum derived from limestone and dolomite. Agassiz soils are on side slopes of mountains. Slopes are 4 to 70 percent. The mean annual precipitation is about 16 inches, and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Haploxerolls

Typical pedon: Agassiz very gravelly loam, 30 to 75 percent slopes, is located in an area of map unit 1010. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 55 percent pebbles and 10 percent cobbles.

A1--0 to 2 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak, fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine tubular pores; 40 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.
A2--2 to 6 inches; brown (10YR 5/3) extremely cobbly 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 few fine and medium roots; common very fine tubular pores; 40 percent pebbles, 15 percent cobbles and 5 percent stones; slightly alkaline (pH 7.4); clear wavy boundary.
A3--6 to 11 inches; brown (10YR 5/3) extremely cobbly loam, very dark grayish brown ((10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine tubular pores; 30 percent pebbles, 30 percent cobbles and 10 percent stones; slightly alkaline (pH 7.6); abrupt irregular boundary.
R--11 inches; hard, fractured limestone.

Type location: Elko County, Nevada; approximately 23 miles north of Wells in the Snake Mountains; about 2,200 feet west and 1,800 feet south of the northeast corner of section 13, T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 43 seconds north latitude and 115 degrees, 01 minute, 06 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid July through September.
Soil temperature: 42 to 46 degrees F.
Mollic epipedon thickness: 10 to 17 inches.
Depth to bedrock: 10 to 20 inches.
Other features: A thin C horizon occurs below the A horizon in some pedons.
Control section:
Clay content--20 to 27 percent.
Reaction--Neutral to slightly alkaline.
Texture--Dominantly very cobbly loam, extremely cobbly loam.
Rock fragments--50 to 80 percent, mainly pebbles, cobbles, and some stones.

A horizon:
Hue--10YR or 7.5YR
Value--3 through 5 dry, 2 or 3 moist
Chroma--2 or 3.

Agort Series

The Agort series consists of very shallow and shallow, somewhat excessively drained soils that formed in residuum and colluvium from granitic rocks. The Agort soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Loamy, mixed, frigid, shallow Entic Haploxerolls

Typical pedon: Agort gravelly sandy loam, 15 to 30 percent slopes, is located in an area of map unit 310. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles and 5 percent with cobbles.

A--0 to 5 inches; dark grayish brown (10YR 4/2) gravelly sandy loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular pores; 25 percent pebbles; neutral (pH 7.0). gradual smooth boundary.
Cr--5 to 20 inches; weathered granite.

Type location: Elko County, Nevada; approximately 16 miles south of Jackpot in the Granite Range; about 1,000 feet north and 1,500 feet west of the southeast corner of section 30 , T. 45 N., R. 65, E.; (41 degrees, 45 minutes, 15 seconds north latitude and 114 degrees, 39 minutes, 10 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from late June through October.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 4 to 14 inches.
Depth to paralithic contact: 4 to 14 inches.
Control section:
Clay content--6 to 15 percent.

Rock fragments--15 to 35 percent, mainly pebbles.

A horizon:
Value--4 or 5 dry.
Chroma--2 or 3.

Akler Series

The Akler series consists of shallow, well drained soils that formed in residuum from tuff, welded tuff, conglomerate and other volcanic or sedimentary rocks. Akler soils are on hills. Slopes are 4 to 30 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Clayey, montmorillonitic, frigid, shallow Xerollic Haplargids

Typical pedon: Akler loam, 8 to 15 percent slopes, is located in an area of map unit 010. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles.

A1--0 to 2 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine vesicular pores; 10 percent pebbles; slightly alkaline (pH 7.5); clear wavy boundary.
A2--2 to 6 inches; pale brown (10YR 6/3) clay loam, very dark grayish brown (10YR 3/2) moist; weak very thin platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, few fine and medium roots; common very fine interstitial pores; few thin clay films on faces of peds along the lower boundary; 5 percent pebbles; neutral (pH 7.3); abrupt smooth boundary.
Bt--6 to 18 inches; light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common fine and very fine roots; common very fine interstitial pores; continuous stress surface; slightly alkaline (pH 7.4); clear wavy boundary.
Cr--18 to 36 inches; dark grayish brown (2.5Y 4/2) soft, weathered saprolitic tuff; few very fine roots; slightly alkaline (pH 7.4).

Type location: Elko County, Nevada; approximately 20 miles northwest of Wells; about 900 feet west and 1,600 feet north of the southeast corner of section 32 T. 41 N., R. 61 E.; (41 degrees, 23 minutes, 49 seconds north latitude and 115 degrees, 05 minutes, 34 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring dry mid June through October.
Soil temperature: 44 to 47 degrees F.
Depth to paralithic contact: 14 to 20 inches.
Control section:
Clay content--50 to 60 percent.
Reaction--Neutral or slightly alkaline.
Rock fragments--0 to 15 percent, mainly pebbles with some pedons having 15 to 35 percent pebbles and some pedons near rock outcrops having cobbles in their profile.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.

Bt horizon:
Hue--2.5Y or 10YR.
Value--5 or 6 dry, 3 through 5 moist.
Chroma--2 through 4.

Cr horizon:
Clay films--Common in upper horizon along fracture planes.

Amene Series

The Amene series consists of shallow, well drained soils that formed in residuum derived from limestone and dolomite. The Amene soils are on mountains. Slopes are 15 to 75 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Lithic Calcixerolls

Typical pedon: Amene very gravelly silt loam, 15 to 50 percent slopes, is located in an area of map unit 560. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; grayish brown (10YR 5/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, sticky and moderately plastic; common very fine roots; many very fine interstitial and vesicular pores; 40 percent pebbles; violently effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

A2--2 to 8 inches; brown (10YR 5/3) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; 45 percent pebbles; violently effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bk1--8 to 11 inches; brown (10YR 5/3) very gravelly silt loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, sticky and plastic; many very fine and few fine roots; common very fine and fine tubular pores; thin lime coats on undersides of rock fragments; 45 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear irregular boundary.

Bk2--11 to 16 inches; very pale brown (10YR 7/3) very gravelly silt loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, few fine, and coarse roots; common very fine and fine tubular pores; continuous thick lime pendants covering rock fragments; 40 percent pebbles, 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

R--6 inches; hard fractured limestone.

Type location: Elko County, Nevada; approximately 24 miles north of Wells in the Snake Mountains; about 150 feet east and 2,000 feet south of the northwest corner of section 14, T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 39 seconds north latitude and 115 degrees, 03 minutes, 00 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry for 80 to 100 consecutive days, moist in the winter through early summer, dry late July through October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 13 inches.
Depth to bedrock: 14 to 20 inches.
Depth to calcic horizon: 7 to 13 inches.
Control section:
Clay content--20 to 27 percent.
Reaction--Slightly alkaline or moderately alkaline.
Rock fragments--40 to 60 percent, mainly pebbles with up to to 15 percent cobbles.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bk horizons:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--3 or 4 dry and moist.
Texture--Very gravelly silt loam, very gravelly loam.
Calcium carbonate equivalent--40 to 60 percent (less than 20 millimeters fraction).
Other features--Thin to thick lime coats and pendants are common on underside of rock fragments or coat all surfaces of rock fragments.

Amtoft Series

The Amtoft series consists of shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from limestone and other strongly calcareous sedimentary rocks. Amtoft soils are on hills and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xerollic Calciorthids

Typical pedon: Amtoft extremely gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 3023. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 70 percent pebbles and 10 percent cobbles.

A1--0 to 1 inch; light gray (10YR 7/2) extremely gravelly loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; many very fine and fine vesicular pores; 65 percent pebbles and 10 percent

cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.
A2--1 to 3 inches; light gray (10YR 7/2) extremely gravelly loam, brown (10YR 5/3) moist; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; common very fine tubular pores; few thin and moderately thick lime pendants on undersides of rock fragments; 65 percent pebbles and 10 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.
Bk1--3 to 7 inches; light yellowish brown (10YR 6/4) extremely cobbly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and medium roots; common very fine and fine tubular pores; many thick and very thick lime pendants on undersides of rock fragments; 35 percent pebbles, 30 percent cobbles and 5 percent stones; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.
Bk2--7 to 12 inches; light yellowish brown (10YR 6/4) extremely cobbly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and medium roots; common very fine and fine tubular pores; many thick and very thick lime pendants on undersides of rock fragments; 35 percent pebbles, 30 percent cobbles and 5 percent stones; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.
R--12 inches; highly fractured limestone; common, medium lime masses in fractures.

Type location: Elko County; approximately 26 miles northwest of Montello in an unsectionized area; about 400 feet east and 500 feet north of the posted benchmark (elevation 5,335) and about 150 feet north of road; (41 degrees, 32 minutes, 38 seconds north latitude and 114 degrees, 21 minutes, 08 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in some part from October through May. Dry June through September.
Soil temperature: 47 to 52 degrees F.
Calcic horizon thickness: 6 to 10 inches.
Depth to bedrock: 10 to 20 inches.
Control section:
Clay content--12 to 25 percent.
Carbonates--Average 40 to 80 percent calcium carbonate equivalent.
Reaction--Moderately alkaline or strongly alkaline.
Rock fragments--60 to 80 percent

A horizon:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 3 through 5 moist.
Chroma--2 or 3.

Bk horizon:
Hue--2.5Y, 10YR or 7.5YR.
Value--6 through 8 dry, 4 through 7 moist.
Chroma--3 or 4.
Textures--Extremely gravelly loam, extremely cobbly loam, extremely flaggy loam.

Anowell Series

The Anowell series consists of very shallow, well drained soils that formed in residuum and colluvium from tuffaceous rocks. The Anowell soils are on pediments and hills. Slopes are 4 to 30 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Xerollic Haplargids

Typical pedon: Anowell gravelly loam, 8 to 30 percent slopes, is located in an area of map unit 3032. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 50 percent pebbles.

A--0 to 2 inches; light brownish gray (2.5Y 6/2) gravelly loam, dark grayish brown (2.5Y 4/2) moist; weak thin and medium platy structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine interstitial and tubular pores; 25 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.
Btk--2 to 6 inches; light yellowish brown (2.5Y 6/4) gravelly clay loam, olive brown (2.5Y 4/4) moist; weak coarse subangular blocky structure; 20 percent rock structure; slightly

hard, very friable, very sticky and very plastic; common very fine, fine, and medium roots; many very fine interstitial and few fine tubular pores; common moderately thick clay films lining pores and on faces of peds; thin lime coats on undersides of pebbles; 15 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Cr--6 to 10 inches; soft, fractured, platy tuffaceous sediments; few very fine, fine, and medium roots along fractures; strongly effervescent.

Type location: Elko County, Nevada; approximately 5 miles northwest of Montello near Toano Draw, about 375 feet west and 1750 feet south of the northeast corner of section 6 T. 40 N., R. 67 E.; (41 degrees, 22 minutes, 41 seconds north latitude and 114 degrees, 26 minutes, 13 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from mid-June through October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 5 to 12 inches.
Control section:
Clay content--20 to 35 percent.
Reaction--Moderately alkaline or strongly alkaline.
Rock fragments--10 to 30 percent, mainly pebbles.

A horizon:
Hue--10YR or 2.5YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Effervescence--Slightly effervescent or strongly effervescent.

Btk horizons:
Hue--10YR or 2.5YR.
Value--6 or 7 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Clay loam, gravelly loam or gravelly clay loam.
Clay content--25 to 35 percent.
Rock fragments--10 to 30 percent, mainly pebbles.
Structure--Weak or moderate subangular blocky or angular blocky.
Carbonates--1 to 5 percent calcium carbonate equivalent (less than 20mm fraction).

Appian Series

The Appian series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks and lake sediments. Appian soils are on lake plains. Slopes are 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, mesic Typic Natrargids

Typical pedon: Appian fine sandy loam, 0 to 2 percent slopes, is located in an area of map unit 2060. (Colors are for dry soil unless otherwise noted.)

A1--0 to 1 1/2 inches; light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; moderate thick platy structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine vesicular pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt wavy boundary.

A2--1 1/2 to 3 inches; light gray (2.5Y 7/2) loam, grayish brown (2.5Y 5/2) moist; moderate thick platy structure; hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine, fine and few medium vesicular pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt wavy boundary.

Btnk1--3 to 8 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; light gray (2.5Y 7/2) uncoated sand grains on prism caps; moderate coarse prismatic structure parting to moderate medium platy; hard, very friable, moderately sticky and moderately plastic; common very fine, fine, few medium, and coarse roots matted on faces of peds; common very fine, fine vesicular, many very fine and fine tubular pores; common thin clay films on faces of peds and lining tubular pores; few fine filaments of lime; violently effervescent; very strongly alkaline (pH 9.6); abrupt wavy boundary.

Btnk2--8 to 11 inches; light gray (2.5Y 7/2) sandy clay loam, grayish brown (2.5Y 5/2) moist; moderate coarse prismatic structure parting to strong medium platy; hard, very friable, moderately sticky and slightly plastic; many

very fine, fine, few medium, and coarse roots matted on faces of peds; common very fine tubular pores; common thin clay films on faces of peds and lining tubular pores; few fine filaments of lime; violently effervescent; very strongly alkaline (pH 9.6); abrupt wavy boundary.

2C--11 to 60 inches; light gray (2.5Y 7/2) stratified coarse sand to fine sand, grayish brown (2.5YR 5/2) moist; few prominent light yellowish brown (10YR 6/4) mottles; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; weak lime cementation; common krotovinas that are single grain; strongly effervescent; very strongly alkaline (pH 9.6).

Type location: Elko County, Nevada; approximately 10 miles northeast of Montello; about 1,200 feet south and 2,500 feet east of the northwest corner of section 30, T. 40 N., R. 70 E.; (41 degrees, 19 minutes, 32 seconds north latitude and 114 degrees, 05 minutes, 22 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist for short periods in winter and early spring, dry May through October.

Soil temperature: 53 to 57 degrees F.

Combined thickness of A and Btn horizons: 7 to 18 inches.

Depth to sandy 2C horizon: 7 to 18 inches.

A horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--1 or 2.
Reaction--Moderately alkaline to very strongly alkaline.

Btnk horizon:
Hue--10YR or 2.5Y.
Value--4 through 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Clay loam, or sandy clay loam.
Clay content--27 to 35 percent.
Exchangeable sodium--20 to 50 percent.
Structure--Moderate or strong, fine to coarse, columnar or prismatic.
Reaction--Strongly alkaline or very strongly alkaline.
Other features--Few or common, fine or medium white lime or gypsum segregations and filaments.

2C horizons:
Hue--2.5Y, 10YR.
Value--6 or 7 dry, 3 through 5 moist.
Chroma--2 or 3.
Texture--Predominantly sand; stratified with textures that include coarse sand, fine sand, loamy sand, loamy fine sand, fine sandy loam, or sandy loam.
Rock fragments--Up to 75 percent pebbles in some pedons.
Relict iron mottles--Few to many, fine to large, faint to prominent high chroma with hue of 10YR, 7.5YR, or 5YR.
Reaction--Slightly alkaline through very strongly alkaline.

Arcia Series

The Arcia series consists of moderately deep, well drained soils that formed in residuum and colluvium from mixed rocks. The Arcia soils are on hills and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Pachic Argixerolls.

Typical pedon: Arcia silt loam, 15 to 30 percent slopes is located in an area of map unit 462. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and common fine tubular pores; 5 percent pebbles; neutral (pH 6.8); abrupt smooth boundary.

A2--3 to 9 inches; dark grayish brown (10YR 4/2) silt loam, very dark grayish brown (10YR 3/2) moist; strong medium subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine and

few fine tubular pores; 5 percent pebbles; neutral (pH 7.0); clear wavy boundary.
Bt1--9 to 17 inches; dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; strong fine and medium subangular blocky structure; hard, friable, very sticky and plastic; common very fine, fine, and medium roots; many very fine and few fine tubular pores; 10 percent pebbles; common thin clay films on faces of peds and lining pores; neutral (pH 6.8); abrupt wavy boundary.
2Bt2--17 to 27 inches; grayish brown (10YR 5/2) cobbly clay, dark brown (10YR 3/3) moist; moderate medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine interstitial and few fine tubular pores; 5 percent pebbles and 10 percent cobbles; many moderately thick clay films on faces of peds and lining pores; neutral (pH 6.8); abrupt wavy boundary.
2Bt3--27 to 32 inches; brown (10YR 5/3) gravelly clay, dark grayish brown (10YR 4/2) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; common very fine interstitial pores, 25 percent pebbles and 5 percent cobbles; many moderately thick clay films lining pores; 10 percent rock structure; neutral (pH 6.8). abrupt irregular boundary.
3R--32 inches; sandstone and conglomerate bedrock.

Type location: Elko County, Nevada; approximately 20 miles north of Wells; about 800 feet west and 3,000 feet south of the projected northeast corner of section 3, T. 40 N., R. 61 E.; (41 degrees, 23 minutes, 03 seconds north latitude and 115 degrees, 03 minutes, 44 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist winter and spring, dry mid July through early October.
Soil temperature: 42 to 47 degrees F.
Mollic epipedon thickness: 20 to 30 inches; includes the upper argillic horizon.
Depth to bedrock: 30 to 40 inches.
Control section:
Clay content--Averages 35 to 50 percent.
Rock fragments--Averages 5 to 20 percent, mainly pebbles with some cobbles.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 through 3.

Bt1 horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 through 3.
Texture--Clay loam or gravelly clay loam.
Clay content--30 to 40 percent.
Rock fragments--0 to 30 percent, mainly pebbles.

Lower 2Bt subhorizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4 with lower chroma typically in the upper subhorizons.
Clay content--40 to 60 percent.
Rock fragments--Average 5 to 35 percent mainly pebbles and cobbles.
Texture--Clay, gravelly clay, cobbly clay. It is common to find a very cobbly clay with 35 to 50 percent rock fragments in some pedons immediately above the lithic contact.
Structure--Prismatic or massive

Arva Series

The Arva series consists of deep, well drained soils that formed in colluvium and alluvium from mixed rocks. The Arva soils are on hills, mountains, and fan remnants. Slopes are 8 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Pachic Argixerolls

Typical pedon: Arva gravelly loam, 8 to 30 percent slopes, is located in an area of map unit 060. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 30 percent pebbles; neutral (pH 6.8); clear smooth boundary.
A2--2 to 8 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky

structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine tubular pores; 20 percent pebbles; neutral (pH 6.8); gradual wavy boundary.

AB--8 to 15 inches; grayish brown (10YR 5/2) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; many very fine and few fine tubular pores; few thin clay films lining pores; 20 percent pebbles; neutral (pH 6.8); gradual wavy boundary.

Bt1--15 to 29 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; many very fine and few fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 30 percent pebbles; neutral (pH 6.7); gradual wavy boundary.

Bt2--29 to 44 inches; brown (7.5YR 5/2) gravelly clay, dark brown (7.5YR 4/2) moist; strong medium prismatic structure; extremely hard, very firm, very sticky and very plastic; few very fine roots; common very fine interstitial and tubular pores; many distinct stress surfaces; 15 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Cr--44 inches; weathered conglomerate.

Type location: Elko County, Nevada; approximately 20 miles north of Wells; about 1,500 feet south and 500 feet east of the projected northwest corner of section 1 T. 40 N., R. 61 E.; (41 degrees, 23 minutes, 02 seconds north latitude and 115 degrees, 02 minutes, 17 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry mid-July through October.

Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 20 to 30 inches, and includes upper part of the Bt horizon.

Depth to paralithic contact: 40 to 60 inches.

Other features--There is a gradual or clear boundary between the A and Bt horizon.

Control section:

Clay content--45 to 60 percent.

A horizons:

Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:

Hue--7.5YR or 10YR.
Value--3 or 4 moist.
Chroma--2 or 3.
Texture--Clay or gravelly clay.
Rock fragments--10 to 35 percent, mainly pebbles with up to 5 percent cobbles.
Structure--Subangular blocky, angular blocky or prismatic.

Ashart Series

The Ashart series consists of shallow, well drained soils that formed in residuum derived from tuffaceous rocks. The Ashart soils are on hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Mollic Haploxeralfs

Typical pedon: Ashart sandy loam, 2 to 8 percent slopes, is located in an area of map unit 1120. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A--0 to 3 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial and few fine tubular pores; 5 percent pebbles, slightly alkaline (pH 7.4); clear smooth boundary.

E--3 to 7 inches; grayish brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) moist; weak medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine fine roots; many very fine interstitial, few fine, and medium tubular pores; light brownish gray (10YR 6/2) uncoated sand grains on faces of peds; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1--7 to 11 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; moderate

medium prismatic structure parting to moderate medium subangular blocky; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine tubular pores; common thin clay films lining pores and on mineral grains, continuous thin stress surfaces; many distinct light brownish gray (10YR 6/2) silt coats on tops of prisms; 5 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.

Bt2--11 to 15 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; weak medium prismatic structure parting to moderate medium subangular blocky; slightly hard, very friable, moderately sticky and moderately plastic; few very fine and fine roots; common fine tubular pores; many thin clay films on faces of peds and common moderately thick clay films lining pores; 5 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.

Cr--15 to 17 inches; soft fractured ashy tuff; strong thick plates with thin lime coats along fractures; violently effervescent.

Type location: Elko County, Nevada; approximately 33 miles east of Jackpot, about 1,500 feet north and 1,000 feet east of the southwest corner of section 26 T. 47 N., R. 70 E.; (41 degrees, 55 minutes, 59 seconds north latitude and 114 degrees, 06 minutes, 24 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in the winter and spring, dry from late June through October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 12 to 20 inches.
Control section:
Clay content--20 to 35 percent.
Reaction--Neutral or slightly alkaline.
Rock fragments--0 to 5 percent, mainly pebbles.

A horizon:
Value--5 or 6 dry, 2 or 3 moist.
Chroma--2 or 3

E horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Sandy loam or loam.
Clay content--10 to 20 percent.
Rock fragments--0 to 15 percent.
Other features--Has uncoated sand grains with value of 6 or 7 dry.

Bt horizons:
Value--5 or 6 dry, 4 or 5 moist.
Chroma--3 or 4.
Texture--Loam or clay loam.
Clay content--20 to 35 percent.
Rock fragments--0 to 5 percent.

Bancy Series

The Bancy series consists of shallow, well drained soils that formed in alluvium derived from volcanic rocks, loess, and volcanic ash. Bancy soils are on plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey, montmorillonitic, frigid, shallow Typic Durixerolls

Typical pedon: Bancy silty clay loam, 2 to 8 percent slopes, is located in an area of the Bancy-Heckison association. (Colors are for dry soil unless otherwise noted.)

A1--0 to 7 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; weak medium platy structure; slightly hard, very friable, sticky and plastic; many very fine roots; many very fine and fine tubular and interstitial pores; 5 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.8); clear smooth boundary.

Bt--7 to 14 inches; pale brown (10YR 6/3) silty clay, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, friable, sticky and plastic; common very fine, fine and medium roots; common very fine and fine tubular pores; many moderately thick clay films on faces of peds and on mineral grains; 5 percent pebbles and 5 percent cobbles of which 3 percent are duripan fragments; slightly alkaline (pH 7.8); abrupt smooth boundary.

Btqk--14 to 18 inches; pale brown (10YR 6/3) cobbly silty clay, dark brown (10YR 3/3) moist; strong medium and coarse subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; few very fine, fine and medium roots; few very fine tubular pores; few

thin clay films on faces of peds; 30 percent firm and very firm durinodes; 15 percent pebbles and 15 percent cobbles of which half are duripan fragments; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bqkm--18 to 26 inches; white (10YR 8/1) indurated duripan with 2 to 25 mm laminar cap; violently effervescent; abrupt wavy boundary.

R--26 inches; welded tuff.

Type location: Elko County, Nevada; approximately 8 miles east of Jackpot, about 2,100 feet east and 3,000 feet north of the southwest corner of section 8, T. 47 N., R. 66 E.; (41 degrees, 58 minutes, 40 seconds north latitude and 114 degrees, 30 minutes, 47 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, moist in winter, dry late June through October.
Soil temperature: 43 to 45 degrees F.
Mollic epipedon thickness: 7 to 12 inches.
Depth to duripan: 14 to 20 inches.
Depth to bedrock: 20 to 40 inches.
Control section:
Clay content--Average 40 to 50 percent.
Reaction--Slightly alkaline or moderately alkaline.

A horizon:
Value--4 or 5 dry.
Chroma--2 or 3.

Bt horizon:
Value--4 through 6 dry.
Chroma--3 or 4.
Structure--Subangular blocky or angular blocky.
Rock fragments--0 to 10 percent, mostly pebbles and cobbles.

Btqk horizon:
Rock fragments--5 to 35 percent, mostly cobbles and stones.

Batan Series

The Batan series consists of very deep, moderately well drained soils that formed in alluvium derived from welded tuff and volcanic ash. Batan soils are on stream terraces, inset fans, and fan skirts. Slopes are 0 to 4 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous), mesic Durorthidic Torriorthents

Typical pedon: Batan silt loam, 2 to 4 percent slopes, is located in an area of the Geysen-Welch-Batan association. (Colors are for dry soil unless otherwise noted.)

A1--0 to 4 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; moderate thin and medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and few fine roots; many very fine and fine vesicular pores; slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

A2--4 to 9 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine, fine, and few medium roots; common very fine and fine tubular pores; slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bq--9 to 15 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; moderate medium and coarse angular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine and fine tubular pores; 5 percent very firm durinodes; strongly effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

Bqk1--15 to 19 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; massive, hard, firm, moderately sticky and slightly plastic; few very fine, fine, and medium roots; many very fine, fine, and common medium tubular pores; 20 percent extremely firm durinodes in a discontinuous weakly cemented matrix; common fine rounded and thread like soft lime masses; strongly effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

Bqk2--19 to 30 inches; pale brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 4/4) moist, massive; hard, firm, moderately sticky and moderately plastic; few very fine,

fine, and medium roots; many very fine and fine tubular pores; 20 percent extremely firm durinodes in a discontinuous weakly cemented matrix; many fine rounded and thread like soft lime masses; violently effervescent; strongly alkaline (pH 8.6); gradual smooth boundary.

Bqk3--30 to 44 inches; pale brown (10YR 6/3) silt loam, yellowish brown (10YR 5/4) moist; few fine distinct dark yellowish brown (10YR 4/4) mottles; massive; hard, firm, moderately sticky and slightly plastic; few fine and medium roots; many very fine, fine, and few medium tubular pores; 30 percent extremely firm durinodes in a discontinuous weakly cemented matrix; many very fine, fine, and few medium rounded and thread like soft like masses; violently effervescent; strongly alkaline (pH 8.6); gradual smooth boundary.

Bqk4--44 to 60 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; common fine distinct dark yellowish brown (10YR 4/4) mottles; massive, hard, firm, moderately sticky and slightly plastic; few very fine and fine roots; many very fine, fine, and few medium tubular pores; 30 percent extremely firm durinodes in a discontinuous weakly cemented matrix; few medium rounded and many fine rounded and thread like soft lime masses; violently effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 9 miles south of Contact; about 1,800 feet west and 2,200 feet south of the northeast corner of section 9, T. 43 N., R. 63 E.; (41 degrees, 37 minutes, 43 seconds north latitude and 114 degrees, 50 minutes, 43 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in late May through early November. There is a water table influence at depths immediately below 60 inches.

Soil temperature: 47 to 53 degrees F.

Depth to Bq or Bqk horizon: 9 to 24 inches.

Salt and sodium: Most pedons are salt and sodium affected. Some pedons near drainageways and stream channels lack salt and sodium in the upper horizons.

Mottles: Faint or distinct iron mottles are common in any horizon below 10 inches.

Gypsum: Gypsum crystals are in some pedons below depths of 20 inches.

Control section:
Clay content--20 to 30 percent.

A horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Reaction--Moderately alkaline through very strongly alkaline.
Other features--Slightly effervescent through violently effervescent.

Bq and Bqk horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Structure--Angular blocky or massive.
Texture--Silt loam, silty clay loam, but may be stratified fine sandy loam to silty clay in some pedons.
Cementation--20 to 40 percent durinodes. Some pedons have subhorizons with up to 70 percent discontinuous weak silica cementation.
Reaction--Strongly alkaline or very strongly alkaline.
Other features--Strongly effervescent or violently effervescent.

Belsac Series

The Belsac series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. The Belsac soils are on mountains. Slopes are 15 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed Pachic Cryoborolls

Typical pedon: Belsac very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 560. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak very fine granular structure; soft,

very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular pores; 40 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

A2--2 to 6 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and few fine tubular pores; 35 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

A3--6 to 20 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine and few fine tubular pores; few thin strongly effervescent lime coats on pebbles; 40 percent pebbles; noneffervescent matrix; slightly alkaline (pH 7.5); clear wavy boundary.

Bk1--20 to 24 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine and few fine tubular pores; thin lime coats on rock fragments; 45 percent pebbles, 2 percent cobbles; strongly effervescent (3 percent calcium carbonate equivalent); slightly alkaline (pH 7.8); clear wavy boundary.

Bk2--24 to 37 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, few fine, and medium roots; few fine tubular pores; thin lime coats cover rock fragments with thin lime pendants on the undersides of rock fragments; 40 percent pebbles, 10 percent cobbles; violently effervescent (10 percent calcium carbonate equivalent); moderately alkaline (pH 8.0); abrupt wavy boundary.

2Cr--37 inches; fractured siltstone with lime coats along fractures with few gypsum crystals.

Type location: Elko County, Nevada; approximately 24 miles north of Wells in the Snake Mountains; about 2,000 feet east and 1,500 feet north of southwest corner of section 14 T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 15 seconds north latitude and 115 degrees, 02 minutes, 33 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry late July to October.

Soil temperature: 40 to 45 degrees F.

Average summer soil temperature: 55 to 59 degrees F.

Mollic epipedon thickness: 20 to 40 inches.

Depth to bedrock: 25 to 40 inches.

Depth to carbonates: 20 to 25 inches.

Control section:

Percent clay--18 to 25 percent.

Rock fragments--Averages 35 to 60 percent, mainly pebbles with up to 10 percent cobbles.

A horizons:

Value--4 or 5 dry.

Chroma--2 or 3 moist.

Other features--Few thin lime coats are common on rock fragments in lower subhorizon above the Bk horizon.

Bk1 horizon:

Value--4 or 5 dry.

Chroma--2 or 3 moist.

Reaction--Slightly alkaline or moderately alkaline.

Effervescence--Strongly effervescent or violently effervescent.

Calcium carbonate equivalent--2 to 10 percent.

Bk2 horizon:

Value--5 or 6 dry, 3 or 4 moist.

Chroma--2 or 3.

Reaction--Slightly alkaline or moderately alkaline.

Effervescence--Strongly effervescent or violently effervescent.

Calcium carbonate equivalent--2 to 10 percent.

Other features--The horizon commonly has thin lime coats that cover rock fragments with thin lime pendants on underside of rock fragments.

Belsac Variant

The Belsac variant consists of very deep, moderately well drained, moderately permeable soils that formed in loess over colluvium from quartzite and sandstone. Belsac variant soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed Entic Cryumbrepts

Typical pedon: Belsac variant very stony silt loam, 15 to 50 percent slopes, is located in an area of map unit 570. (Colors are for dry soil unless otherwise noted.)

Oi--4 to 3 inches; slightly decomposed aspen leaves and twigs.
Oe--3 to 0 inches; decomposed organic litter; few very fine and fine roots.
A1--0 to 9 inches; dark gray (10YR 4/1) very stony silt loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few coarse, common very fine and medium and many fine roots; common very fine interstitial, few very fine and fine tubular pores; 10 percent pebbles, 20 percent cobbles and 20 percent stones; slightly acid (pH 6.1); abrupt wavy boundary.
A2--9 to 29 inches; dark grayish brown (10YR 4/2) extremely cobbly silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine, coarse, common medium, and many fine roots; common very fine interstitial and common fine tubular pores; 15 percent pebbles, 35 percent cobbles and 20 percent stones; moderately acid (pH 5.8); clear wavy boundary.
AC--29 to 41 inches; brown (10YR 5/3) extremely cobbly silt loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common coarse, many fine and medium roots; common very fine interstitial and common fine tubular pores; 10 percent pebbles, 40 percent cobbles and 25 percent stones; moderately acid (pH 6.0); clear wavy boundary.
C--41 to 61 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few coarse, common fine, and medium roots; many very fine interstitial and common fine tubular pores; common thin silt films lining pores and coating rock fragments; 20 percent pebbles, 30 percent cobbles and 20 percent stones; slightly acid (pH 6.2).

Type location: Elko County, Nevada; approximately 22 miles north of Wells about 100 feet east and 2,000 feet south of the northwest corner of section 21, T. 41 N., R. 62 E.; (41 degrees, 25 minutes, 52 seconds north latitude and 114 degrees, 58 minutes, 13 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry September and October. Additional moisture is supplied by lateral water movement in the substratum.
Soil temperature: 42 to 45 degrees F.
Average summer soil temperature: 55 to 59 degrees F.
Umbric epipedon thickness: 28 30 to 50 inches.
Base saturation: 30 to 50 percent.
Control section:
Clay content--12 to 20 percent.
Reaction--Medium acid or slightly acid.
Rock fragments--60 to 80 percent, dominantly cobbles and/or stones.

A horizons:
Value--4 or 5 dry; 2 or 3 moist.

C horizon:
Value--5 or 6 dry; 3 or 4 moist.
Structure--Subangular blocky or it is massive.
Texture--Extremely cobbly silt loam, extremely cobbly loam, or extremely stony silt loam.

Bilbo Series

The Bilbo series consists of very deep, well drained soil that formed in alluvium derived from mixed rocks. Bilbo soils are on fan remnants. Slopes are 2 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, mesic Xerollic Haplargids

Typical pedon: Bilbo very gravelly sandy clay loam, 15 to 50 percent slopes, is located in an area of map unit 270. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent cobbles and 30 percent pebbles.

A--0 to 2 inches; brown (10YR 5/3) very gravelly sandy clay loam, dark brown (10YR 3/3) moist; weak medium platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; 40 percent pebbles; neutral (pH 6.8); clear smooth boundary.

Bt1--2 to 6 inches; brown (7.5YR 5/4) very gravelly clay, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; very hard, friable, very sticky and very plastic; many very fine and common fine roots; many very fine tubular pores; many thin clay films lining pores, and bridging mineral grains; 50 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt2--6 to 12 inches; brown (7.5YR 5/4) very gravelly sandy clay, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and very plastic; few very fine and fine roots; few very fine tubular pores; many moderately thick clay films bridging mineral grains and lining pores; 35 percent pebbles, neutral (pH 7.2); clear smooth boundary.

Bt3--12 to 18 inches; brown (7.5YR 5/4) very gravelly sandy clay, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and very plastic; few very fine and fine roots; few very fine tubular pores; many moderately thick clay films lining pores, and bridging mineral grains; 40 percent pebbles, and 5 percent cobbles; neutral (pH 7.2); abrupt smooth boundary.

Bt4--18 to 27 inches; dark yellowish brown (10YR 4/4) extremely gravelly sandy clay, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; many moderately thick clay films bridging mineral grains, lining pores; 60 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt5--27 to 32 inches; yellowish brown (10YR 5/4) extremely gravelly sandy clay, dark yellowish brown (10YR 4/4) moist, massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; common thin clay films bridging mineral grains, and lining pores; few moderately thick lime coats on pebbles; 50 percent pebbles, and 20 percent cobbles; slightly alkaline (pH 7.8); clear smooth boundary.

2Bk--32 to 60 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; common thin lime coats on undersides of rock fragments; 40 percent pebbles and 10 percent cobbles; slightly effervescent; slightly alkaline (pH 7.8).

Type location: Elko County, Nevada; approximately 1,700 feet south and 500 feet west of the northeast corner section 28, T. 45 N., R. 61 E.; (41 degrees, 45 minutes, 57 seconds north latitude and 115 degrees, 04 minutes, 14 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry June through October.
Soil temperature: 47 to 51 degrees F.
Combined thickness of A and Bt horizons: 20 to 40 inches.
Depth to carbonates: 20 to 40 inches.
Depth to silica cementation 40 to over 60 inches.
Control section:
Clay content--35 to 50 percent.
Reaction--Neutral to moderately alkaline, normally increasing with depth.
Rock fragments--35 to 60 percent, mainly pebbles with up to 15 percent cobbles in some pedons.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.

Bt horizons:
Hue--7.5YR or 10YR.
Value--5 or 6 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Very gravelly clay, very gravelly sandy

clay, very gravelly clay loam or extremely gravelly sandy clay.
Structure--Prismatic, subangular, or angular blocky or is massive in the lower part.

2Bk horizon:
Value--5 through 8 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture--Extremely gravelly loamy sand or very gravelly sandy loam.
Rock fragments--35 to 75 percent, mainly pebbles.

Bluehill Series

The Bluehill series consists of moderately deep, somewhat excessively drained soils that formed in alluvium and residuum derived from volcanic ash. Bluehill soils are on hills and plateaus. Slopes are 2 to 50 percent. The mean annual precipitation is about 14 inches,and the mean annual temperature is about 47 degrees F.

Taxonomic class: Ashy, mesic Vitrandic Xerochrepts

Typical pedon: Bluehill fine sandy loam, 4 to 15 percent slopes, is located in an area of map unit 990. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 5 percent pebbles.

A--0 to 3 inches; light brownish gray (10YR 6/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.
BA--3 to 8 inches; pale brown (10YR 6/3) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and common fine roots; many very fine interstitial pores; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.
Bw--8 to 11 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; common fine and medium roots; common very fine interstitial pores; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.
Bk1--11 to 16 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few fine and medium roots; common very fine tubular pores; 5 percent pebbles; 30 percent soft ash fragments 1/2 to 1 inch in diameter which are lime coated on all sides in a noncalcareous matrix; moderately alkaline (pH 8.2); clear smooth boundary.
Bk2--16 to 26 inches; very pale brown (10YR 7/3) loamy fine sand, brown (10YR 4/3) moist; weak medium and coarse platy structure; hard, firm, nonsticky and nonplastic; few very fine and medium roots; few very fine tubular pores; 5 percent pebbles; 60 percent weakly consolidated soft ash plates, 1/2 to 1 inch thick that are lime coated on all sides; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
2Cr--26 inches; weakly consolidated ashy tuffs.

Type location: Elko County Nevada; approximately 33 miles east of Jackpot; about 2,500 feet east and 2,000 feet south of the northwest corner of section 29, T. 47 N., R. 70 E.; (41 degrees, 56 minutes, 12 seconds north latitude and 114 degrees, 02 minutes, 31 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; dry from mid June through September.
Soil temperature: 47 to 50 degrees F.
Depth to paralithic contact: 20 to 40 inches thick.
Control section:
Clay content--2 to 10 percent.
Rock fragments--0 to 10 percent pebbles 30 to 90 percent soft weakly consolidated ashy tuff fragments 1/2 to 4 inches thick, 1 to 10 inches long.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bw horizon:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 or 3.
Carbonates--0 to 5 percent calcium carbonate

equivalent.
Reaction--Slightly alkaline or moderately alkaline.

Bk horizons:
Hue--2.5Y or 10YR.
Value--7 or 8 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture--Fine sandy loam or loamy fine sand.
Reaction--Moderately alkaline through very strongly alkaline.
Carbonates--5 to 15 percent calcium carbonate equivalent.

Booford Series

The Booford series consists of moderately deep, well drained soils formed in residuum and colluvium derived from tuffaceous rocks. Booford soils are on hills. Slope is 2 to 50 percent. The mean annual precipitation is about 18 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Typic Argixerolls

Typical pedon: Booford gravelly clay loam, 2 to 8 percent slopes, is located in an area of map unit 656. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles.

A1--0 to 4 inches; grayish brown (10YR 5/2) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine interstitial pores; 20 percent pebbles, neutral (pH 6.8); clear wavy boundary.
A2--4 to 9 inches; grayish brown (10YR 5/2) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium angular blocky structure; hard, friable, very sticky and moderately plastic; common very fine roots; common very fine interstitial pores; 15 percent pebbles; neutral (pH 6.8); abrupt irregular boundary.
Bt1--9 to 16 inches; grayish brown (10YR 5/2) gravelly clay, dark brown (10YR 3/3) moist; moderate medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine, fine, and medium roots; common very fine interstitial pores; many thick clay films on faces of peds; 25 percent pebbles; neutral (pH 6.6); clear wavy boundary.
Bt2--16 to 24 inches; brown (10YR 5/3) gravelly clay, brown (10YR 4/3) moist; moderate medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine, and medium roots; common very fine interstitial pores; continuous thin stress surfaces; 20 percent pebbles; neutral (pH 6.6); abrupt wavy boundary.
Cr--24 to 35 inches; weathered tuff.

Type location: Elko County, Nevada; approximately 19 miles northeast of Wells in the Windermere Hills; about 2,150 feet east and 925 feet south of the northwest corner of section 12, T. 39 N., R. 64 E.; (41 degrees, 17 minutes, 02 seconds north latitude and 114 degrees, 41 minutes, 14 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring; dry in late summer and fall.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 17 inches thick; includes the upper part of the argillic horizon.
Solum thickness and depth to bedrock: 20 to 40 inches.
Reaction: Slightly acid or neutral.

A horizons:
Value--3 to 5 dry, 2 or 3 moist.
Chroma--1 or 2.

Bt1 horizon:
Hue--10YR or 7.5YR.
Value--4 or 5 dry.
Chroma--2 or 3.
Texture--Silty clay loam or clay.
Clay content--35 to 45 percent.
Rock fragments--5 to 25 percent.
Structure--Angular blocky or prismatic.

Bt2 horizon:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Clay or silty clay.
Clay content--45 to 60.
Rock fragments--0 to 25 percent.

Structure--Prismatic or massive.

Boso Series

The Boso series consists of shallow, well drained soils that formed in alluvium derived from limestone and dolomite. The Boso soils are on fan remnants. Slopes are 4 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid, shallow Aridic Petrocalcic Palexerolls

Typical pedon: Boso loam, 8 to 15 percent slopes, is located in an area of map unit 980. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles.

A1--0 to 4 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and few fine roots; many very fine interstitial pores; 10 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.

A2--4 to 9 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate coarse subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine, fine, few medium, and coarse roots; common very fine and fine tubular pores; common medium thick lime pendants on lower sides of pebbles; 10 percent fragments consisting of pebbles and pebble size pan fragments; slightly alkaline (pH 7.8); clear smooth boundary.

Bk--9 to 19 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common fine and few medium and coarse roots; common very fine and fine tubular pores; many thick lime pendants on lower sides of pebbles; 40 percent coarse fragments consisting of pebbles and pebble size pan fragments; 6 percent calcium carbonate equivalent in the less than 2 millimeter fraction; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bkm--19 to 34 inches; white (10YR 8/2) indurated petrocalcic, with 1 to 8 millimeter laminar lime cap, and a few discontinuous 3 to 10 inch thick pockets of brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

2Bky1--34 to 40 inches; very pale brown (10YR 7/3) gravelly loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; many thick lime coatings on pebbles; weakly lime cemented; 15 percent pebbles; many very fine and fine gypsum filaments; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

3Bky2--40 to 60 inches; light gray (10YR 7/2) extremely gravelly loam, grayish brown (10YR 5/2) moist; massive; hard, friable, slightly sticky and slightly plastic; many thick lime coats on pebbles; common very fine and fine gypsum filaments; weakly lime cemented; 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 30 miles north of Wells; about 3,200 feet west of the northeast corner of section 31, T. 42 N., R. 61 E.; (41 degrees, 29 minutes, 55 seconds north latitude and 115 degrees, 07 minutes, 05 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry from mid-June through early October.
Soil temperature: 45 to 47 degrees F.
Mollic epipedon thickness: 10 to 20 inches.
Depth to petrocalcic horizon: 10 to 20 inches.
Control section:
Clay content--18 to 27 percent.
Rock fragments--35 to 50 percent mainly pebbles and pebblesize pan fragments.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bk horizons:
Value--4 or 5 dry, 2 or 3 moist.

Chroma--2 or 3.
Texture--Very gravelly loam or very gravelly silt loam.
Clay content--18 to 27 percent.
Rock fragments--35 to 50 percent pebbles and pebble size pan fragments.
Reaction--Slightly alkaline or moderately alkaline.
Carbonates--5 to 15 percent

Bkm horizon:
Value--7 or 8 dry.

Bky horizons:
Texture--Loam to extremely gravelly loam.
Clay content--10 to 18 percent.
Rock fragments--5 to 75 percent, mainly pebbles.
Reaction--Moderately alkaline or strongly alkaline.
Gypsum filaments--Few to many in any one subhorizon.

Bullump Series

The Bullump series consist of deep, well drained soils that formed in colluvium derived from mixed rocks. Bullump soils are on mountains. Slopes are 15 to 50 percent. Mean annual precipitation is about 15 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Pachic Argixerolls

Typical pedon: Bullump very gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 541. (Colors are for dry soils unless otherwise noted.)

A1--0 to 5 inches; very dark grayish brown (10YR 3/2) very gravelly loam, very dark brown (10YR 2/2) moist; strong very fine and fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 40 percent pebbles; neutral (pH 7.0); clear smooth boundary.
A2--5 to 11 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure parting to strong fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium and coarse roots; many very fine interstitial pores; 45 percent pebbles; neutral (pH 7.0); clear smooth boundary.
BA--11 to 20 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure parting to strong fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine tubular pores; 45 percent pebbles; neutral (pH 7.0); clear wavy boundary.
Bt1--20 to 29 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, and few fine tubular pores; common thin clay films bridging and coating mineral grains; 45 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear wavy boundary.
Bt2--29 to 35 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine interstitial, many very fine, and few fine tubular pores; common thin clay films lining pores and on faces of peds; 45 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear wavy boundary.
Bt3--35 to 47 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine interstitial and common very fine and few fine tubular pores; common moderately thick, brown (7.5YR 4/4) clay films lining pores, and on faces of peds; few pores are lined by uncoated mineral grains; 50 percent pebbles and 5 percent cobbles; neutral (pH 7.2); abrupt wavy boundary.
2R--47 inches; hard quartzite.

Type location: Elko County, Nevada; approximately 1 mile north of Stormy Canyon in the Snake Mountains; about 2,000 feet west and 250 feet north of the southeast corner of section 21, T. 42 N., R. 61 E.; (41 degrees, 30 minutes, 40 seconds north latitude and 115 degrees, 04 minutes, 28 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry late July to early October. Additional soil moisture may be supplied by lateral water movement in the lower part of the profile.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 20 to 40 inches.
Depth to bedrock: 40 to 80 inches.
Control section:
Clay content--25 to 35 percent.
Reaction--Slightly acid through slightly alkaline.
Other features--Some pedons have a C horizon that is below 40 inches.
Rock fragments--35 to 55 percent, mainly pebbles with some cobbles.

A horizons:
Value--3 through 5 dry, 2 or 3 moist.
Chroma--1 through 3.
Other features--Organic matter 2 to 6 percent.

Bt horizons:
Hue--7.5YR or 10YR.
Value--4 through 6 dry, 2 through 4 moist.
Chroma--2 through 6.
Texture--Very gravelly loam or very gravelly clay loam.
Clay content--25 to 35 percent.
Rock fragments--35 to 55 percent, mainly pebbles.
Structure--Subangular blocky or angular blocky.
Other features--Uncoated mineral grains and few silt coats lining pores occur in some pedons. Some pedons have few distinct mottles or manganese stains on pebbles.

Cameek Series

The Cameek series consists of shallow, moderately well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Cameek soils are on fan remnants. Slopes are 2 to 15 percent. Mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey, montmorillonitic, frigid, shallow Aridic Durixerolls

Typical pedon: Cameek silt loam, 4 to 15 percent slopes is located in an area of map unit 270. (Colors are for dry soils unless otherwise noted.)

A--0 to 2 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; moderate medium and thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine vesicular pores; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.
Bty--2 to 8 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; moderate thin and medium platy structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine, and common medium roots; common fine tubular pores; common moderately thick clay films on faces of peds, lining pores, and bridging mineral grains; common fine gypsum masses; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.
Btqy1--8 to 15 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; strong medium and coarse prismatic structure; hard, firm, very sticky and very plastic; common fine and medium roots; few fine tubular pores; many stress surfaces and many moderately thick clay films lining pores and bridging mineral grains; common fine and few medium threadlike and soft masses of gypsum; few very fine and fine manganese stains on faces of peds; many moderately thick silica coats on undersides of pebbles; 10 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.
Btqy2--15 to 19 inches; yellowish brown (10YR 5/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; few medium faint brown (10YR 5/3) mottles, common medium organic stains and few very fine and fine manganese stains on faces of peds; weak medium prismatic structure parting to moderate fine and medium subangular blocky; hard, firm, very sticky and very plastic; common fine roots; few fine tubular pores; 20 percent discontinuous weak silica cementation; many moderately thick silica coats on undersides of pebbles; many stress surfaces and many moderately thick clay films lining pores and bridging mineral grains; common fine and medium threadlike and soft masses of gypsum; 30 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.
Bqm1--19 to 24 inches; strongly cemented duripan with a 0.5 to 1.0 millimeter thick discontinuous

silica laminae; strong thick platy structure; common very fine and fine manganese stains on horizontal plate surfaces; abrupt wavy boundary.

Bqm2--24 to 42 inches; indurated duripan with a 2 to 7 millimeter thick continuous silica laminar cap; abrupt wavy boundary.

2Cy--42 to 60 inches; pale brown (10YR 6/3) extremely cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine interstitial pores; many very fine and few fine threadlike and soft masses of gypsum; 50 percent pebbles, 35 percent cobbles; slightly alkaline (pH 7.8)

Type location: Elko County, Nevada; approximately 25 miles north of the Cottonwood Ranch in the O'Neil Basin; about 2,000 feet north and 2,500 feet east of the southwest corner of section 30, T. 45 N., R. 61 E.; (41 degrees, 45 minutes, 40 seconds north latitude and 115 degrees, 07 minutes, 03 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in the winter and spring, dry late June through October.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 12 inches, commonly includes the upper part of the argillic horizon.

Depth to duripan: 14 to 20 inches.

Control section:
Clay content--Averages 40 to 55 percent.
Rock fragments--Averages 10 to 35 percent.

A horizon:
Chroma--2 or 3.

Bty horizon:
Value--4 or 5 dry, 2 through 4 moist.
Chroma--2 through 4.
Texture--Clay loam or gravelly clay.
Clay content--30 to 45 percent.
Rock fragments--5 to 25 percent.
Structure--Platy or subangular blocky.
Other features--Gypsum masses and/or threads are present in most pedons.

Btqy horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Clay, gravelly clay, or gravelly sandy clay.
Clay content--40 to 60 percent.
Rock fragments--10 to 35 percent.
Structure--Prismatic, angular blocky or subangular blocky.
Silica cementation--Undersides of pebbles are coated with silica; the lower subhorizons have up to 30 percent discontinuous weak silica cementation.
Mottles--Few faint mottles may be absent in some pedons.
Other features--Gypsum masses and threads are present in most pedons.

Bqm horizons:
Thickness of the laminae--0.5 to 7.0 mm.

2C horizon:
Rock fragments--35 to 50 percent pebbles, 25 to 35 percent cobbles.

Cavehill Series

The Cavehill series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. Cavehill soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Typic Calcixerolls

Typical pedon: Cavehill very gravelly silt loam, 15 to 50 percent slopes, is located in an area of map unit 2030. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles and 5 percent cobbles.

Oi--1 to 0 inches; slightly decomposed pine needles and twigs; clear wavy boundary.

A1--0 to 4 inches; grayish brown (10YR 5/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; 50 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

A2--4 to 9 inches; grayish brown (10YR 5/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine, and few medium roots; many very fine interstitial pores; thin lime coats on undersides of rock fragments; 40 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

A3--9 to 17 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine interstitial pores; few thick lime coats on undersides of rock fragments; 45 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk--17 to 33 inches; white (10YR 8/2) very gravelly loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; common very fine and fine interstitial pores; discontinuous weak lime cementation and many thick lime coats covering rock fragments with thin lime pendants on undersides of rock fragments; 45 percent pebbles, 5 percent cobbles, and 5 percent stones; violently effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

2R--33 inches; hard, fractured limestone.

Type location: Elko County, Nevada; approximately 8 miles northwest of Montello; about 1,000 feet east and 130 feet south of the northwest corner of section 28, T. 40 N., R. 68 E.; (41 degrees, 19 minutes, 53 seconds north latitude and 114 degrees, 17 minutes, 40 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid July through mid October.

Soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 14 to 20 inches.

Depth to bedrock: 20 to 40 inches.

Control section:

Clay content--18 to 27 percent.

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.

Reaction--Moderately alkaline or strongly alkaline.

Rock fragments--35 to 60 percent, mainly pebbles and cobbles, with stones common in some pedons.

A horizons:

Value--4 or 5 dry.

Chroma--2 or 3.

Effervescence--Effervescent after mixing to a depth of 7 inches in horizons above 10 inches and strongly effervescent or violently effervescent below 10 inches.

Other features--Thick lime pedants are on some rock fragments in the lower A horizon in some pedons.

Bk horizon:

Value--6 through 8 dry, 4 through 7 moist.

Chroma--2 or 3.

Textures--Very gravelly silt loam, very gravelly loam, very cobbly loam or very cobbly silt loam.

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.

Structure--Subangular blocky or it is massive.

Other features--Weak discontinuous lime cementation and thin to thick lime coats and pendants on undersides of rock fragments.

Chayson Series

The Chayson series consists of moderately deep to a indurated duripan, well drained soils that formed in alluvium derived mainly from volcanic rocks and volcanic ash. Chayson soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine-loamy, mixed, frigid Typic Durixerolls

Typical pedon: Chayson loam, 4 to 15 percent slopes, is located in an area of map unit 195. (Colors are for dry soil unless otherwise noted.)

A--0 to 3 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine tubular pores; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bt1--3 to 12 inches; grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, and medium roots; many very fine and fine tubular pores; few moderately thick clay films lining pores, on faces of peds, and bridging mineral grains; 5 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2--12 to 20 inches; light brownish gray (10YR 6/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; common very fine and fine tubular pores; few thin clay films lining pores on faces of peds and bridging mineral grains; few thin lime coats on pebbles; 5 percent pebbles; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bk--20 to 36 inches; light brownish gray (10YR 6/2) gravelly loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine tubular pores; 15 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm--36 to 60 inches; light gray (10YR 7/2) indurated duripan; 1 to 2 millimeter thick continuous laminae.

Type location: Elko County, Nevada; approximately 14 miles east of Jackpot; about 2,500 feet east and 2,000 feet north of the southwest corner of section 28 T. 47 N., R. 67 E.; (41 degrees, 56 minutes, 05 seconds north latitude and 114 degrees, 22 minutes, 24 second west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid July through mid October; moist mid October to mid July.

Soil temperature: 44 to 46 degrees F.

Mollic epipedon: 10 to 17 inches.

Depth to duripan: 20 to 40 inches.

Control section:

Clay content--24 to 34 percent.

Rock fragments--0 to 30 percent, mainly pebbles.

A horizon:

Value--4 or 5 dry, 2 or 3 moist.

Chroma--2 or 3.

Bt horizons:

Value--5 or 6 dry, 3 or 4 moist

Chroma--2 through 4.

Texture--Clay loam, loam or silty clay loam

Rock fragments--0 to 30 percent, mainly pebbles

Bk horizon:

Value--6 or 7 dry, 4 or 5 moist.

Texture--Clay loam or loam

Rock fragments--0 to 30 percent, mainly pebbles

Reaction--Moderately alkaline or strongly alkaline.

Carbonates--Calcium carbonate equivalent 15 to 30 percent

Bqkm horizon:

Value--7 or 8 dry

Other features--Typically has fractures 10 to 20 inches apart. Thickness of the duripan is 8 to 24 inches

Chen Series

The Chen series consists of well drained soils that formed in residuum and colluvium derived from mixed rocks. Chen soils are on hills and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Lithic Argixerolls

Typical pedon: Chen very gravelly loam, 30 to 50 percent slope, is located in an area of map unit 749. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 65 percent pebbles.

A1--0 to 2 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure parting to strong fine granular; soft, very friable, moderately sticky and moderately plastic; many very fine, few fine, and medium roots; many very fine interstitial, and common very fine tubular pores; 35 percent pebbles; neutral (pH 7.2); clear wavy boundary.

A2--2 to 6 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; strong fine granular structure; slightly hard, very friable, sticky and plastic; many very fine, few fine, and medium roots; many very fine interstitial pores; 45 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

Bt1--6 to 8 inches; brown (10YR 5/3) very gravelly clay, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, very sticky and very plastic; common very fine and few fine and medium roots; common very fine interstitial and tubular pores; common thin clay films on faces of peds and lining pores; 45 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2--8 to 12 inches; brown (10YR 5/3) very gravelly clay, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine, few fine, and medium roots; common very fine interstitial and many fine tubular pores; common thin clay films on faces of peds and lining pores; 50 percent pebbles; neutral (pH 7.2); abrupt irregular boundary.

2R--12 inches; hard, fractured chert.

Type location: Elko County, Nevada; approximately 7 miles southwest of Boies Reservoir; about 2,250 feet east and 2,400 feet south of the northwest corner of section 21, T. 42 N., R. 62.; (41 degrees, 30 minutes, 59 seconds north latitude and 114 degrees, 57 minutes, 46 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry mid June through October.

Soil temperature: 43 to 47 degrees.

Mollic epipedon thickness: 7 to 17 inches and generally includes all of the upper part of the argillic horizon.

Depth to bedrock: 12 to 20 inches.

Reaction: Slightly acid through slightly alkaline throughout.

A horizons:

Value--4 through 6 dry (less than 5.5 when the surface 7 inches are mixed), 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:

Hue--7.5YR or 10YR with 5YR common in areas with high iron concentrations in the parent material.
Value--4 or 5 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very gravelly clay, extremely gravelly clay, very cobbly clay, extremely cobbly clay; some pedons have thin Bt1 horizons of very gravelly clay loam with 35 to 40 percent clay.
Clay content--40 to 55 percent.
Rock fragments--40 to 65 percent pebbles and cobbles normally increasing with depth.
Structure--Weak to strong, fine or medium angular or subangular blocky or platy.

Chiara Series

The Chiara series consists of shallow, well drained, moderately permeable soils that formed in loess and volcanic ash over alluvium. The Chiara soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Xerollic Durorthids

Typical pedon: Chiara silt loam, 2 to 4 percent slopes, is located in an area of map unit 171. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles.

A1--0 to 2 inches; light brownish gray (10YR 6/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate very thin platy structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common very fine vesicular pores, common very fine and fine tubular pores; 5 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2--2 to 4 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine and fine tubular pores; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bw--4 to 9 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine, fine, and few medium roots; common very fine and fine tubular pores; 5 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

Bqk--9 to 14 inches; light brownish gray (10YR 6/2) silt loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; common very fine and few fine roots; common very fine interstitial and few fine tubular pores; 20 percent 1 inch in diameter durinodes; 5 percent pebbles; few thin lime coats on durinodes; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bqkm--14 to 34 inches; white (10YR 8/2) indurated duripan with a 2 to 5 millimeter thick silica laminar cap, pale brown (10YR 6/3) moist; massive; extremely hard, extremely firm; moderately alkaline (pH 8.4); abrupt wavy boundary.

3Bqkm--34 to 61 inches; white (10YR 8/2) indurated duripan, pale brown (10YR 6/3) moist; silica laminae 2 to 4 millimeters thick; 20 percent pebbles; few discontinuous lenses of gravelly loamy fine sand; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 4 miles north of Wells; about 2,500 feet north and 1,900 feet west of the southeast corner of section 28, T. 38 N., R. 62 E.; (41 degrees, 08 minutes, 45 seconds north latitude and 114 degrees, 58 minutes, 16 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, dry, from June through October, but are moist in winter and spring.
Soil temperature: 47 to 53 degrees F.
Depth to indurated duripan: 10 to 20 inches.

Control section:
Clay content--5 to 18 percent.
Rock fragments--0 to 5 percent pebbles when mixed.
Other features--Gravel and sand substratum are below a depth of 40 inches in some pedons.

A horizons:
Value--3 or 4 moist.
Chroma--2 or 3.
Reaction--Neutral through moderately alkaline.

Bw horizon:
Value--6 or 7 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Very fine sandy loam, loam or silt loam with 70 to 85 percent silt plus very fine sand.
Structure--Weak to strong, fine to coarse subangular blocky or weak prismatic.
Reaction--Slightly alkaline to strongly alkaline.

Bqk horizon:
Durinodes--20 to 60 percent ranging from .3 to 1 inch in diameter.
Texture--Very fine sandy loam, loam or silt loam with 70 to 85 percent silt plus very fine sand.
Reaction--Moderately alkaline or strongly alkaline.

Bqkm horizons:
Value--6 through 8 dry, 5 through 7 moist.
Chroma--2 through 4.
Structure--Massive or thick platy.

Chuska Series

The Chuska series consists of shallow to an indurated duripan, well drained soils that formed in alluvium derived from volcanic rocks. Chuska soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Xerollic Durargids

Typical pedon: Chuska gravelly loam, 2 to 8 percent slopes is located in an area of map unit 250. (Colors are for dry soil unless otherwise

noted.) The soil surface is partially covered by 10 percent pebbles and 1 percent cobbles.

A1--0 to 1 inch; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 3/3) moist; weak, thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine tubular pores; 15 percent pebbles; moderately alkaline (pH 7.9); abrupt smooth boundary.

A2--1 to 3 inches; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; 15 percent pebbles; moderately alkaline (pH 7.9); abrupt smooth boundary.

Bt--3 to 7 inches; pale brown (10YR 6/3) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure parting to moderate fine subangular blocky; hard, firm, moderately sticky and moderately plastic; common very fine, fine and medium roots; common very fine and fine tubular pores; common thin clay films lining pores and bridging mineral grains; few thin lime coats on undersides of pebbles; 25 percent pebbles; moderately alkaline (pH 8.0); abrupt smooth boundary.

Btk--7 to 12 inches; very pale brown (10YR 7/3) gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; very hard, firm, slightly sticky and slightly plastic; few very fine, fine and medium roots; few very fine tubular pores; common thin and moderately thick clay films on faces of peds and lining pores; many lime coats on undersides of pebbles; 30 percent pebbles, and duripan fragments; slightly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bqkm--12 to 22 inches; very pale brown (10YR 7/3) indurated duripan with a continuous 2 to 5 mm silica laminar cap brown (10YR 5/3) moist; massive; extremely hard, extremely firm; violently effervescent; abrupt wavy boundary.

2Bqk--22 to 28 inches; very pale brown (10YR 7/3) extremely gravelly loamy sand, brown (10YR 5/3) moist; massive, loose, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; many moderately thick lime pendants on undersides of rock fragments; 60 percent pebbles and duripan fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2Bk--28 to 53 inches; very pale brown (10YR 7/3) extremely gravelly loamy sand, brown (10YR 5/3) moist; massive; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial pores; continuous thin and moderately thick lime coats on pebbles; 60 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R--53 inches; welded tuff.

Type location: Elko County, Nevada; approximately 5 miles southeast of Jackpot; about 2,000 feet east and 2,000 feet north of the southwest corner of section 25, T. 46 N., R. 65 E.; (41 degrees, 50 minutes, 38 seconds north latitude and 114 degrees, 33 minutes, 05 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; dry from about June through October, but are moist in the winter and spring.
Soil temperature: 48 to 50 degrees F.
Depth to bedrock: 40 to 60 inches.
Depth to indurated duripan: 12 to 20 inches.
Control section:
Clay content--26 to 35 percent.
Rock fragments--15 to 35 percent, mainly pebbles.

A horizons:
Value--5 or 6 dry, 3 or 4 moist
Chroma--2 or 3.

Bt horizon:
Value--6 or 7 dry, 3 or 4 moist
Chroma--2 through 4
Texture--Gravelly clay loam, gravelly loam.
Reaction--Moderately alkaline or strongly alkaline.

Cleavage Series

The Cleavage series consists of shallow, well drained soils that formed in residuum and colluvium from mixed rocks. Cleavage soils are on hills and mountains. Slopes are 4 to 75 percent.

The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Argixerolls

Typical pedon: Cleavage very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 743. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with 50 percent pebbles.

A1--0 to 3 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak thick platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine and common fine vesicular pores; 45 percent pebbles, neutral (pH 7.3); clear wavy boundary.

A2--3 to 7 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine interstitial and tubular pores; 35 percent pebbles, neutral (pH 7.3); clear wavy boundary.

BA--7 to 10 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard; friable, slightly sticky and slightly plastic; common very fine roots; common very fine few fine tubular pores; 40 percent pebbles, slightly alkaline (pH 7.4); clear wavy boundary.

Bt--10 to 18 inches; pale brown (10YR 6/3) extremely gravelly clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots, common very fine and fine tubular pores; 55 percent pebbles, 5 percent cobbles; common thin clay films lining pores and on faces of peds; slightly alkaline (pH 7.4); abrupt irregular boundary.

2R--18 inches; fractured chert.

Type location: Elko County, Nevada; approximately 20 miles north of Wells; about 1,700 feet west and 2,500 feet south of the northeast corner of section 34, T. 41 N., R. 62 E.; (41 degrees, 24 minutes, 01 seconds north latitude and 114 degrees, 56 minutes, 23 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October for 70 to 120 consecutive days.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 10 inches, does not include Bt horizon.
Depth to bedrock: 14 to 20 inches.
Control section:
Clay content--20 to 35 percent.
Rock fragments--50 to 80 percent, mostly pebbles or cobbles.
Reaction--Neutral or slightly alkaline.

A horizons:
Value--4 or 5 dry 2 or 3 moist.
Chroma--2 or 3.

BA horizon:
Chroma--2 through 4.
Texture--Very cobbly loam or very gravelly loam.

Bt horizon:
Hue--7.5YR or 10YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Very cobbly clay loam, extremely cobbly clay loam, very gravelly clay loam, or extremely gravelly clay loam, very gravelly sandy clay loam, some pedons have very cobbly loam or very gravelly loam.
Structure--Subangular blocky or angular blocky or it is massive.

Cobre Series

The Cobre series consists of moderately deep, well drained soils that formed in residuum and colluvium from pyroclastic and volcanic rocks. The Cobre soils are on pediments and hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Ashy, mesic Durixerollic Calciorthids

Typical pedon: Cobre silt loam, 4 to 15 percent slopes, in an area of map unit 3031. (Colors are for dry soil unless otherwise noted.)

A1--0 to 1 inch; light gray (2.5Y 7/2) silt loam, dark grayish brown (2.5Y 4/2) moist; weak medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; few very fine roots; many very fine interstitial, many very fine, fine, and few coarse vesicular pores; 10 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2--1 to 2 inches; light gray (2.5Y 7/2) silt loam, dark grayish brown (2.5Y 4/2) moist; moderate medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; few very fine roots; many very fine interstital, many very fine, and fine vesicular pores; 10 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw1--2 to 6 inches; light gray (2.5Y 7/2) silt loam, grayish brown (2.5Y 5/2) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial and few very fine tubular pores; 10 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bw2--6 to 13 inches; light gray (2.5Y 7/2) loam, grayish brown (2.5Y 5/2) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, few medium and coarse roots; many very fine interstital pores; 10 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

2Bqk1--13 to 25 inches; white (2.5Y 8/2) sandy loam, light brownish gray (2.5Y 6/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine, fine and few medium roots; many very fine interstitial pores; 50 percent hard 1 to 2 inch diameter durinodes; thin lime coats on undersides of rock fragments; 10 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bqk2--25 to 29 inches; white (2.5Y 8/2) sandy loam, light brownish gray (2.5Y 6/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and few very fine tubular pores; 60 percent hard 1 to 2 inch diameter durinodes; thin lime and silica coats lining tubular pores; 10 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Cr1--29 to 31 inches; light gray (2.5Y 7/2) ashy tuff, grayish brown (2.5Y 5/2) moist; few very fine roots along fracture planes; thin lime and silica coats lining fracture planes; slightly effervescent; gradual wavy boundary.

2Cr2--31 to 41 inches; light gray (2.5Y 7/2) ashy tuff, grayish brown (2.5Y 5/2) moist; slightly effervescent.

Type location: Elko County, Nevada; approximately 2 miles north of Cobre; about 250 feet west and 600 feet south of northeast corner of section 32 T. 38 N., R. 67 E.; (41 degrees, 08 minutes, 25 seconds north latitude and 114 degrees, 24 minutes, 42 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry mid-June through October for 70 to 100 consecutive days.

Soil temperature: 47 to 52 degrees F.

Depth to paralithic contact: 20 to 40 inches.

Depth to horizons containing durinodes: 11 to 25.

Control section:

Clay content--Averages 8 to 18 percent.

Reaction--Slightly alkaline or moderately alkaline.

Volcanic ash--65 to 80 percent.

Rock fragments--0 to 15 percent, mainly ashy tuff pebbles.

A horizons:

Hue--10YR or 2.5Y.

Value--5 through 7 dry, 3 or 4 moist.

Chroma--2 or 3.

Effervescence--Noneffervescent or slightly effervscent.

Bw horizons:

Hue--10YR or 2.5Y.

Value--5 through 7 dry, 3 through 5 moist.

Chroma--2 or 3.

Texture--Silt loam, loam or very fine sandy loam.

Clay content--15 to 25 percent.

Rock fragments--0 to 15 percent, mainly ashy tuff pebbles.

Structure--Subangular blocky or angular blocky.

Effervescence--Noneffervescent to strongly effervescent.

Bq or Bqk horizons:
Hue--2.5Y, 5Y or 10YR.
Value--6 through 8 dry, 4 through 6 moist.
Chroma--2 or 3.
Texture--Sandy loam, fine sandy loam or loam.
Clay content--8 to 18 percent.
Rock fragments--Averages 0 to 15 percent; some thin subhorizons range up to 25 percent ashy tuff pebbles.
Structure--Subangular blocky or it is massive.
Effervescence--Noneffervescent to strongly effervescent.

Contact Series

The Contact series consists of very deep, somewhat excessively drained soils that formed in colluvium derived from granitic rocks. The Contact soils are on hills. Slopes are 15 to 30 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Sandy, mixed, frigid Entic Haploxerolls

Typical pedon: Contact gravelly loamy coarse sand, 15 to 30 percent slopes, is located in an area of the Shalper-Contact-Rock outcrop association. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A1--0 to 7 inches; dark grayish brown (10YR 4/2) gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, few fine, medium, and coarse roots; common very fine tubular pores; 30 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
A2--7 to 18 inches; grayish brown (10YR 5/2) gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, few fine, medium, and coarse roots; common very fine tubular pores; 30 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.
AC--18 to 34 inches; pale brown (10YR 6/3) gravelly loamy coarse sand, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine, medium and coarse roots; common very fine tubular pores; 30 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.
C--34 to 60 inches; pale brown (10YR 6/3) gravelly coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 30 percent pebbles; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada, approximately 4.5 miles southwest of Contact; about 600 feet west and 1,200 feet north of the southeast corner of section 35, T. 45 N., R. 63 E.; (41 degrees, 44 minutes, 24 seconds north latitude and 114 degrees, 48 minutes, 03 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from about mid June through October.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 10 to 18 inches thick.
Depth to bedrock: 60 to over 80 inches.
Control section:
Clay content--1 to 7 percent.
Reaction--Slightly alkaline or moderately alkaline.
Rock fragments--20 to 35 percent pebbles, more than 50 percent are 2 to 5 millimeters size fragments.

A horizons:
Value--4 or 5 dry.
Chroma--2 or 3.
Effervescence--Noneffervescent or slightly effervescent.

AC horizon:
Value--5 or 6 dry.
Chroma--2 or 3.
Texture--Gravelly loamy coarse sand, gravelly coarse sand or gravelly loamy sand.
Clay content--1 to 5 percent.
Rock fragments--20 to 35 percent.
Structure--Subangular blocky or it is massive.

C horizon:
Value--3 or 4 moist.
Chroma--2 or 3.
Texture--Gravelly loamy coarse sand, gravelly coarse sand or gravelly loamy sand.
Clay content--1 to 5 percent.
Rock fragments--20 to 35 percent.
Other features--Some pedons have slight effervescence in the lower part.

Coser Series

The Coser series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks. The Coser soils are on hills and piedmonts. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Typic Palexerolls

Typical pedon: Coser gravelly clay loam, 4 to 15 percent slopes, is located in an area of map unit 060. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 70 percent pebbles.

A--0 to 4 inches; grayish brown (10YR 5/2) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine, fine, and few medium vesicular pores; 25 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

Bt1--4 to 8 inches; grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; moderate coarse angular blocky structure; hard, friable, very sticky and very plastic; common very fine and few fine roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 6.8); abrupt smooth boundary.

Bt2--8 to 16 inches; brown (10YR 4/3) clay, dark brown (10YR 3/3) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine exped roots, few fine and medium inped roots; few very fine tubular pores; continuous pressure faces; 10 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

2Bt3--16 to 22 inches; light brownish gray (2.5Y 6/2); gravelly clay, dark grayish brown (2.5Y 4/2) moist; moderate fine and medium prismatic structure; very hard, very firm, very sticky and very plastic common very fine exped roots; few very fine interstitial pores; common moderately thick clay films on faces of peds; about 20 percent of horizon has rock structure; 10 percent pebbles, 5 percent cobbles; neutral (pH 7.3); abrupt smooth boundary.

2Bt4--22 to 28 inches; light gray (2.5Y 7/2) silty clay; grayish brown (2.5Y 5/2) moist; weak fine and medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine roots; few very fine pores; many pressure faces; about 35 percent of horizon has rock structure; neutral (pH 7.3); clear wavy boundary.

2Cr--28 to 61 inches; light gray (2.5Y 7/2) soft calcareous tuffaceous saprolite, few very fine roots along fracture planes; violently effervescent.

Type location: Elko County, Nevada; approximately 21 miles north of Wells near Antelope Peak; about 900 feet south and 250 feet east of the northwest corner of section 1, T. 40 N., R. 61 E.; (41 degrees, 23 minutes, 23 seconds north latitude and 115 degrees, 02 minutes, 19 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry from about mid-July to October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 13 to 20 inches; includes upper part of Bt horizon.
Depth to paralithic contact: 20 to 40 inches.
Control section:
Clay content--50 to 60 percent.
Rock fragments--5 to 20 percent, mainly pebbles.

A horizon:
Value--4 or 5 dry.
Chroma--2 or 3.

Bt horizons:
Value--4 or 5 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Clay or gravelly clay.

Clay content--50 to 60 percent.
Structure--Moderate or strong angular blocky or prismatic.

2Bt horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Silty clay, clay, or gravelly clay.
Clay content--45 to 55 percent.
Structure--Weak to strong angular blocky or prismatic.
Reaction--Neutral or slightly alkaline.
Other features--Commonly has 10 to 40 percent rock structure.

Cotant Series

The Cotant series consists of shallow, well-drained soils formed in residuum and colluvium derived from mixed rocks. Cotant soils are on hills and pediments. Slopes are 4 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Clayey, montmorillonitic, frigid, shallow Aridic Argixerolls

Typical pedon: Cotant very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 820. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A--0 to 3 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak moderately thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; 35 percent pebbles; neutral (pH 6.8); clear smooth boundary.
Bt1--3 to 8 inches; grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; weak medium prismatic structure; hard, firm, very sticky and very plastic; common very fine and fine roots, few very fine tubular pores; common moderately thick clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.0); clear smooth boundary.
Bt2--8 to 12 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; weak medium prismatic structure; hard, firm, very sticky and very plastic; common very fine and fine roots; few very fine tubular pores; common moderately thick clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.2); gradual wavy boundary.
2Cr--12 inches; weathered tuff; common clay films along fracture planes.

Type location: Elko County, Nevada; approximately 15 miles southwest of Jackpot; about 1,500 feet west and 2,000 feet south of the northeast corner of section 33, T. 47 N., R. 62 E.; (41 degrees, 55 minutes, 11 seconds north latitude and 114 degrees, 57 minutes, 08 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; moist in winter and spring, dry July through October.
Soil temperature: 42 to 47 degrees F.
Mollic epipedon thickness: 7 to 14 inches, including upper part of argillic horizon.
Depth to paralithic contact: 12 to 20 inches.
Reaction--Neutral or slightly alkaline.

A horizon:
Chroma--2 or 3.

Bt horizon:
Value--4 through 6 dry, 3 through 5 moist.
Chroma--2 or 3.
Texture--Dominantly clay, gravelly clay common in some subhorizons.
Clay content--40 to 60 percent.
Rock fragments--0 to 15 percent, mainly pebbles; up to 25 percent common in some subhorizons.
Structure--Prismatic or angular blocky.

Croesus Series

The Croesus series consists of moderately deep, well drained soils that formed in residuum and colluvium from sedimentary rocks. The Croesus soils are on mountains. Slopes are 30 to 75 percent. The mean annual precipitation is about 18 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed Pachic Cryoborolls

Typical pedon: Croesus extremely stony loam, 30 to 75 percent slopes, is located in an area of map unit 1010. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 40 percent pebbles, 15 percent cobbles, and 25 percent stones.

A1--0 to 3 inches; dark brown (10YR 4/3) extremely stony loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, few medium, and coarse roots; many very fine interstitial pores; 45 percent pebbles; 10 percent cobbles and 20 percent stones; neutral (pH 7.3); clear wavy boundary.

A2--3 to 9 inches; dark brown (10YR 4/3) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, few fine, medium, and coarse roots; many very fine and common fine tubular pores; 50 percent pebbles, 5 percent cobbles and 15 percent stones; neutral (pH 7.3); clear wavy boundary.

A3--9 to 18 inches; brown (10YR 5/3) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, few medium, and coarse roots; many very fine and common fine tubular pores; 45 percent pebbles, 10 percent cobbles and 5 percent stones; neutral (pH 7.3); clear wavy boundary.

A4--18 to 28 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, medium and coarse roots; many very fine and common fine tubular pores; few thin lime coats on undersides of rock fragments; 55 percent pebbles, 10 percent cobbles and 5 percent stones; slightly alkaline (pH 7.5); abrupt wavy boundary.

2R--28 inches; fractured quartzite bedrock.

Type location: Elko County, Nevada; approximately 23 miles north of Wells in the Snake Mountains; about 900 feet south and 1,800 feet west of the northeast corner of section 13, T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 54 seconds north latitude and 115 degrees, 00 minutes, 59 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from August to October.
Soil temperature: 42 to 45 degrees F.
Average summer soil temperature: 55 to 59 degrees F.
Mollic epipedon thickness: 20 to 40 inches.
Depth to bedrock: 20 to 40 inches.
Control section:
Percent clay--10 to 18 percent.
Rock fragments--Averages 50 to 70 percent including 10 to 20 percent cobbles and stones.

A horizons:
Hue--7.5YR or 10YR.
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.
Texture--Sandy loam, or loam.
Reaction--Slightly acid through slightly alkaline, increasing with depth

Crooked Creek Series

The Crooked Creek series consists of very deep, poorly drained soils that formed in alluvium derived from mixed rocks. The Crooked Creek soils are on floodplains. Slopes are 0 to 2 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Cumulic Haplaquolls

Typical pedon: Crooked Creek silty clay loam, drained, rarely flooded, 0 to 2 percent slopes, is located in an area of map unit 211. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; dark gray (10YR 4/1) silty clay loam, black (10YR 2/1) moist; weak very fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and few fine roots; few very fine interstitial pores; neutral (pH 7.3); abrupt smooth boundary.

A2--3 to 12 inches; dark gray (10YR 4/1) silty clay loam, black (10YR 2/1) moist; weak medium

subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and common fine roots; many very fine interstitial and common fine tubular pores; slightly alkaline (pH 7.6); clear smooth boundary.

A3--12 to 18 inches; dark gray (10YR 4/1) silty clay loam, black (10YR 2/1) moist; weak medium prismatic structure parting to moderate fine subangular blocky; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine interstitial pores; slightly alkaline (pH 7.6); abrupt smooth boundary.

A4--18 to 29 inches; dark gray (10YR 4/1) silty clay, black (10YR 2/1) moist; few fine distinct dark yellowish brown (10YR 4/4) mottles; weak medium prismatic structure parting to strong fine angular blocky; hard, firm, very sticky and very plastic; few very fine roots; common very fine interstitial pores; slightly alkaline (pH 7.5); abrupt smooth boundary.

A5--29 to 38 inches; gray (10YR 5/1) silty clay, very dark gray (10YR 3/1) moist; few fine prominent olive (5Y 4/3) mottles; moderate medium subangular blocky structure parting to strong fine angular blocky; hard, firm, very sticky and very plastic; few very fine roots; few very fine interstitial pores; slightly alkaline (pH 7.6); clear wavy boundary.

C1--38 to 48 inches; gray (10YR 6/1) silty clay loam, very dark gray (10YR 3/1) moist; common fine prominent olive (5Y 4/3) moist mottles; weak coarse subangular blocky structure parting to moderate fine angular blocky; hard, firm, very sticky and very plastic; few very fine interstitial pores; slightly alkaline (pH 7.5); clear smooth boundary.

C2--48 to 61 inches; light gray (5Y 7/2) silty clay loam, dark gray (5Y 4/1) moist; many large prominent olive (5Y 5/3) and dark greenish gray (5G 4/1) moist mottles; massive; hard, firm, very sticky and very plastic; slightly alkaline (pH 7.5).

Type location: Elko County, Nevada; approximately 19 miles northeast of Wells in the Windermere Hills; 950 feet east and 1,000 feet south of the northwest corner of section 30, T. 39 N., R. 65 E.; (41 degrees, 14 minutes, 23 seconds north latitude and 114 degrees, 40 minutes, 17 seconds west longitude.)

Range in Characteristics:

Soil moisture: The soil is saturated at or near the surface for a least one month during most years.
Soil temperature: 43 to 45 degrees F.
Mollic epipedon thickness: Greater than 24 inches.
Control section:
Clay content--Averages 35 to 50 percent.
Rock fragments--Averages 0 to 10 percent.

A horizons:
Value--3 through 5 dry, 1 through 3 moist.
Chroma--1 or 2.
Other features--Most subhorizons have faint to distinct mottles.

C horizons:
Hue--10YR, 7.5YR, 5Y or 2.5Y
Value--3 through 6 dry, 3 through 5 moist.
Chroma--1 through 4.
Texture--Clay loam, silty clay loam, silt loam.
Clay content--Averages 30 to 40 percent.
Rock fragments--Averages 0 to 10 percent.
Structure--Subangular blocky or it is massive.
Other features--These horizons have distinct or prominent mottles with hue of 7.5YR through 5G.

Dacker Series

The Dacker series consists of moderately deep, well drained soils that formed in alluvium derived from mixed rocks loess and volcanic ash. The Dacker soils are on fan remnants. Slopes are 2 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Fine-loamy, mixed, mesic Xerollic Durargids

Typical pedon: Dacker silt loam, 2 to 4 percent slopes, is located in an area of map unit 160. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; light brownish gray (10YR 6/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; slightly

hard, very friable, moderately sticky and slightly plastic; many very fine roots; many very fine and common fine vesicular pores; slightly alkaline (pH 7.6); clear smooth boundary.

A2--3 to 7 inches; light brownish gray (10YR 6/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, moderately sticky and slightly plastic; many very fine roots; common very fine tubular pores; slightly alkaline (pH 7.6); clear smooth boundary.

Bt1--7 to 11 inches; pale brown (10YR 6/3) silty clay loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, very sticky and moderately plastic; many very fine roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and lining pores; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt2--11 to 17 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, friable, very sticky and moderately plastic; common very fine roots; common very fine and few fine tubular pores; few thin clay films lining pores; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bqk--17 to 22 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, very sticky and very plastic; common very fine roots; common very fine interstitial pores; 20 percent 5 to 10 millimeter in diameter hard durinodes; few thin lime coats on durinodes and on undersides of pebbles; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bqkm--22 to 42 inches; white (10YR 8/2) continuous indurated duripan with 2 to 5 millimeter laminar cap, very pale brown (10YR 7/4) moist; massive; extremely hard, extremely firm; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

3Cqk--42 to 61 inches; light gray (10YR 7/2) very gravelly loamy sand, brown (10YR 5/3) moist; massive; very hard, friable, nonsticky and nonplastic; alternating with continuous and discontinuous strongly cemented layers; 50 percent pebbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 4 miles north of Wells; about 1,800 feet north and 400 feet east of the southwest corner of section 19, T. 38 N., R. 63 E.; (41 degrees, 09 minutes, 41 seconds north latitude and 114 degrees, 54 minutes, 16 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring dry June through October.
Soil temperature: 47 to 52 degrees F.
Combined thickness of A and Bt: 17 to 25 inches.
Depth to carbonates: 15 to 25 inches.
Depth to duripan: 20 to 35 inches.
Control section:
Clay content--27 to 35 percent.
Rock fragments--5 to 35 percent pebbles.

A horizon:
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bt horizons:
Value--6 or 7 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Upper subhorizon is silty clay loam or gravelly silty clay loam. Lower subhorizon is silt loam, silty clay loam or gravelly silt loam.
Clay content--Upper subhorizon 27 to 35 percent, lower subhorizons 25 to 33 percent.
Rock fragments--Upper subhorizons 5 to 20 percent
Lower subhorizons--5 to 35 percent.
Structure--Prismatic, subangular blocky, may be massive in the lower part.
Consistence--Usually hard, slightly hard in subhorizons.
Reaction--Slightly alkaline or moderately alkaline.

Bqk horizon:
Value--6 or 7 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Silt loam, some pedons have gravelly silt loam.
Clay content--20 to 25 percent.
Rock fragments--5 to 35 percent pebbles.
Other features--20 to 50 percent, 5 to 30 millimeter durinodes.

Bqkm horizon:
Value--7 or 8 dry, 5 through 7 moist.
Chroma--2 through 4.

Other features--Commonly has variable thickness of alternating layers of weak, strong or indurated silica-lime cemented material below.

Deleplain Series

The Deleplain series consists of very deep, very poorly drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. The Deleplain soils are on flood plains. Slopes are 0 to 2 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed (calcareous), mesic Aeric Fluvaquents

Typical pedon: Deleplain silt loam, 0 to 2 percent slopes, is located in an area of map unit 187. (Colors are for dry soil unless otherwise noted.)

A--0 to 3 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and medium roots; few very fine and fine vesicular pores; 5 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C1--3 to 8 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; few fine distinct pale brown (10YR 6/3) mottles, brown (10YR 4/3) 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; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C2--8 to 21 inches; light gray (10YR 7/2) silt loam, dark grayish brown (10YR 4/2) moist; common fine distinct light yellowish brown (10YR 6/4) mottles, dark yellowish brown (10YR 4/6) and brownish yellow (10YR 6/6) moist; moderate medium subangular blocky; soft, very friable, moderately sticky and slightly plastic; common very fine, fine, and medium roots; many very fine and common fine and few medium tubular pores; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Cq--21 to 34 inches; light brownish gray (10YR 6/2) gravelly silt loam, dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) moist; few fine distinct pale brown (10YR 6/3) mottles, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and plastic; common very fine and few fine and medium roots; many very fine and common fine tubular pores; 10 percent weak discontinuous silica cementation; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Cq--34 to 51 inches; light brownish gray (10YR 6/2) gravelly loamy coarse sand, dark grayish brown (10YR 4/2) moist; few fine distinct pale brown (10YR 6/3) mottles; brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; 10 percent weak discontinuous silica cementation; 20 percent pebbles; moderately alkaline (pH 8.0); abrupt wavy boundary.

3C--51 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly coarse sand, dark grayish brown (10YR 4/2) moist; few fine prominent brownish yellow (10YR 6/6) mottles, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; 60 percent pebbles; slightly alkaline (pH 7.8).

Type location: Elko County, Nevada; approximately 5 miles south of Jackpot, in the Salmon Falls Creek drainage; about 1,320 feet east of the northwest corner of section 35, T. 47 N., R. 64 E.; (41 degrees, 55 minutes, 32 seconds north latitude and 114 degrees, 41 minutes, 24 seconds west longitude.)

Range in Characteristics:

Soil moisture: Saturated at some depth between 6 to 18 inches for at least one month or more during late winter through early summer. During late summer and fall the depth to the water table is 40 to 60 inches unless drained.

Soil temperature: 47 to 52 degrees F.

Depth to contrasting textures: 25 to 37 inches.

Control section:

Clay content--Averages 18 to 27 percent in the upper part.

Rock fragments--Averages 5 to 25 percent, mainly pebbles.
Clay content--Averages 8 to 15 percent in the lower part.
Rock fragments--10 to 70 percent, mainly pebbles.
Other features--Averages less than 50 percent very fine sand.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Structure--Thin or medium platy.

C or Cq horizons:
Value--6 or 7 dry.
Texture--Stratified silt loam or gravelly silt loam.
Clay content--Averages 18 to 27 percent.
Rock fragments--Up to 25 percent, mainly pebbles.
Structure--Fine or medium subangular blocky.
Effervescence--Strongly effervescent or violently effervescent.
Mottles--Few or common in any subhorizon.
Cementation--5 to 15 percent weak discontinuous.

2Cq horizon:
Value--6 or 7 dry.
Clay content--Averages 5 to 10 percent.
Rock fragments--15 to 25 percent.
Mottles--Few to common, distinct or prominent.
Cementation--5 to 15 percent weak discontinuous.

3C horizon:
Texture--Stratified very gravelly coarse sand to extremely gravelly coarse sand.
Mottles--Few or common, distinct or prominent.
Rock fragments--50 to 70 percent, mainly pebbles.
Clay content--5 to 10 percent.

Devilsgait Series

The Devilsgait series consists of very deep, very poorly drained soils that formed in alluvium derived from mixed rocks, loess and volcanic ash. The Devilsgait soils are on floodplains. Slopes are 0 to 4 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous), mesic Cumulic Haplaquolls

Typical pedon: Devilsgait silt loam, drained, rarely flooded, 0 to 2 percent slopes, is located in an area of map unit 480. (Colors are for dry soils unless otherwise noted.)

A1--0 to 2 inches; dark gray (10YR 4/1) silt loam, very dark gray (10YR 3/1) moist; common fine distinct yellowish red (5YR 4/6) moist mottles; moderate medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; moderately alkaline (pH 8.2); abrupt smooth boundary.
A2--2 to 9 inches; dark gray (10YR 4/1) silt loam, black (10YR 2/1) moist; common fine distinct strong brown (7.5YR 4/6) moist mottles; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine, fine, few medium, and coarse roots; common very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
A3--9 to 12 inches; dark gray (10YR 4/1) silty clay loam, black (10YR 2/1) moist; common fine distinct strong brown (7.5YR 4/6) moist mottles; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine, and few medium roots; common very fine tubular pores; slightly effervescent; strongly alkaline (pH 9.0); clear wavy boundary.
A4--12 to 24 inches; gray (10YR 5/1) silty clay loam, black (10YR 2/1) moist; common fine distinct yellowish red (5YR 4/6) moist mottles; moderate fine prismatic structure parting to moderate fine subangular blocky; hard, firm, very sticky and very plastic; common very fine and fine roots; common very fine tubular pores; violently effervescent in lime filaments; common medium lime filaments and soft masses; strongly effervescent matrix; strongly alkaline (pH 8.6); abrupt wavy boundary.
A5--24 to 31 inches; gray (10YR 5/1) silty clay loam, black (10YR 2/1) moist; common fine distinct yellowish red (5YR 4/6) moist mottles; weak fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; few fine gypsum crystals; few fine lime filaments and

soft masses; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
C--31 to 37 inches; light gray (10YR 6/1) silt loam, very dark gray (10YR 3/1) moist; many fine faint dark grayish brown (10YR 4/2) and few fine distinct yellowish red (5YR 4/6) moist mottles; weak medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine tubular pores; few fine lime seams and masses; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.
Ab1--37 to 43 inches; gray (10YR 5/1) silty clay loam, black (10YR 2/1) moist; few medium distinct yellowish red (5YR 4/6) moist mottles; moderate fine prismatic structure; hard, firm, very sticky and very plastic; common very fine roots; many very fine tubular pores; few fine lime filaments and soft masses; slightly effervescent; moderately alkaline (pH 7.9); abrupt smooth boundary.
C'--43 to 61 inches; light brownish gray (2.5Y 6/2) silty clay loam, grayish brown (2.5Y 5/2) moist; common medium distinct light olive brown (2.5Y 5/4) and few fine distinct yellowish red (5YR 4/6) moist mottles; strong coarse prismatic structure; hard, firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; few fine lime filaments and soft masses; slightly effervescent; moderately alkaline (pH 7.9).

Type location: Elko County, Nevada; approximately 26 miles north of Wells; about 2,000 feet east and 2,500 feet north of the southwest corner of section 7, T. 41 N., R. 64 E.; (41 degrees, 27 minutes, 10 seconds north latitude and 114 degrees, 46 minutes, 27 seconds west longitude.)

Range in Characteristics:

Soil moisture: Saturated at or near the surface for at least one month during most years, mainly during the late winter through early summer months.
Soil temperature: 47 to 50 degrees F.
Mollic epipedon thickness: 24 to 50 inches.
Control section:
Clay content--20 to 35 percent.
Reaction--Slightly alkaline or moderately alkaline, with some pedons strongly alkaline in the upper part.
Other features--Some pedons have a gravelly substratum below depths of 40 inches. Some pedons are drained due to stream channel entrenchment.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 or 2.
Other features--Buried A horizons occur in some pedons.

C horizon:
Hue--10YR, 2.5Y or 5Y.
Value--3 through 5 moist.
Chroma--1 or 2.
Texture--Stratified silt loam and silty clay loam. Some pedons have thin strata of silty clay or loam in the lower part.

Dewar Series

The Dewar series consists of shallow, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Dewar soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Xerollic Durargids

Typical pedon: Dewar gravelly silt loam, 2 to 8 percent slopes, is located in an area of map unit 131. (Colors are for dry soil unless otherwise noted.)
A--0 to 2 inches; light brownish gray (10YR 6/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate very thin platy structure breaking to strong very fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, few fine roots; many very fine interstitial pores; 30 percent pebbles; slightly alkaline (pH 7.4); abrupt smooth boundary.
Bt1--2 to 6 inches; pale brown (10YR 6/3) gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, fine, few medium, and coarse roots; many very fine interstitial pores; many thin clay films lining

pores and on faces of peds and as colloid stains on mineral grains; 20 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt2--6 to 14 inches; very pale brown (10YR 7/3) gravelly clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, common fine, medium and coarse roots; common very fine interstitial and tubular pores; many thin clay films lining pores and on faces of peds; 30 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bqkm1--14 to 30 inches; white (10YR 8/2) indurated duripan; massive; very rigid; few very fine roots in fractures; common thin clay films on duripan surface; violently effervescent; clear wavy boundary.

Bqkm2--30 to 60 inches; white (10YR 8/2) strongly silica cemented duripan with 1 to 2 inch discontinuous layers of extremely gravelly coarse sand; massive; extremely hard and slightly rigid; few very fine roots in fractures; very thin to thin lime and silica pendants on the undersides of pebbles; violently effervescent.

Type location: Elko County, Nevada; approximately 25 miles north of Wells; about 1,000 feet north and 250 feet west of the southeast corner of section 24, T. 42 N., R. 62 E.; (41 degrees, 30 minutes, 41 seconds north latitude and 114 degrees, 53 minutes, 49 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dryearly June through October.
Soil temperature: 47 to 52 degrees F.
Depth to indurated duripan: 14 to 20 inches.
Reaction: A and Bt horizons are neutral to moderately alkaline.

A horizon:
Chroma--2 or 3.

Bt horizons:
Value--6 or 7 dry, 3 or 4 moist.
Chroma--2 through 4 dry, 3 or 4 moist.
Texture--Gravelly silty clay loam or gravelly clay loam.
Clay content--27 to 35 percent.
Rock fragments--15 to 30 percent, mainly pebbles.
Structure--Weak through strong, fine through coarse subangular blocky.

Bqkm horizons:
Structure--Massive or has moderately thick or very thick plate-like layers.
Cementation--Some pedons are alternately strongly cemented or discontinuously indurated horizons below the indurated duripan.
Other features--In some pedons, a 1 to 3 inch zone of degraded duripan material is common along the upper horizon boundary.

Donna Series

The Donna series consists of well drained soils that are moderately deep to a duripan. These soils formed in alluvium derived from mixed rocks, loess, and volcanic ash. Donna soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Very-fine, montmorillonitic, frigid Abruptic Aridic Durixerolls

Typical pedon: Donna extremely cobbly clay loam, 4 to 15 percent slope, is located in an area of map unit 020. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 40 percent pebbles, 20 percent cobbles, and 5 percent stones.

A1--0 to 3 inches; grayish brown (10YR 5/2) extremely cobbly clay loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, common fine and few medium roots; common very fine tubular pores; 35 percent pebbles, 35 percent cobbles and 5 percent stones; neutral (pH 7.0); clear wavy boundary.

A2--3 to 7 inches; grayish brown (10YR 5/2) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, common fine and few medium roots; common very fine and few fine tubular pores; 35 percent pebbles, 10 percent cobbles and 5

percent stones; neutral (pH 7.0); clear wavy boundary.

AB--7 to 11 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, and few medium roots; 35 percent pebbles and 10 percent stones; neutral (pH 7.0); abrupt smooth boundary.

Bt1--11 to 19 inches; brown (7.5YR 5/4) clay, dark brown (7.5YR 4/4) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine interstitial pores; many stress surfaces; 5 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt2--19 to 21 inches; brown (7.5YR 5/4) clay, brown (7.5YR 5/4) moist; moderate medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine interstitial pores; many stress surfaces; 5 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bqkm1--21 to 38 inches; reddish yellow (7.5YR 7/6) indurated duripan with continuous 3 to 5 millimeters thick silica laminar cap; massive; very rigid; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bqkm2--38 to 41 inches; reddish yellow (7.5YR 7/6) indurated duripan with continuous 5 to 10 millimeters thick silica laminar cap; massive; very rigid; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bqk--41 to 60 inches; pale brown (10YR 6/3) stratified very gravelly sandy loam and very gravelly sandy clay loam, brown (10YR 4/3) moist; massive; hard, firm, slightly sticky and slightly plastic; discontinuous weakly silica and lime cemented; averages 45 percent pebbles; strongly effervescent; slightly alkaline (pH 7.6).

Type location: Elko County, Nevada; approximately 22 miles north of Wells; about 700 feet south and 1,200 feet east of the northwest corner of section 33, T. 41 N., R. 61 E.; (41 degrees, 24 minutes, 19 seconds north latitude and 115 degrees, 05 minutes, 03 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry mid June through October.

Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 12 inches.
Depth to duripan: 20 to 36 inches.
Thickness of duripan: 10 to 20 inches.
Control section:
- Clay content--60 to 70 percent.
- Rock fragments--0 to 15 percent, mainly pebbles.
- Other features--There is an increase of 15 to 30 percent clay at the upper boundary of the Bt horizon.

A horizons:
- Value--5 or 6 dry, 3 or 4 moist; (6 dry and 4 moist only in the surface 1 to 3 inches.)
- Chroma--2 or 3.
- Reaction--Slightly acid or neutral.

Bt horizons:
- Hue--10YR or 7.5YR.
- Value--5 or 6 dry, 4 or 5 moist.
- Chroma--3 or 4.
- Structure--Weak through strong medium or coarse prismatic, parting to angular blocky, massive in the lower part.
- Consistence--Very hard or extremely hard, dry.
- Reaction--Slightly acid or neutral. Some pedons are slightly alkaline immediately above the duripan.

Bqm and Bqkm horizons:
- Reaction--Neutral or slightly alkaline where the upper subhorizons lack carbonates; moderately alkaline or strongly alkaline in the calcareous portions.
- Other features--Commonly noncalcareous in the upper part but few or common fine soft lime seams are along fracture planes in some pedons.

2Bqk horizon:
- Texture--Stratified extremely gravelly sandy loam to gravelly sandy clay loam.
- Rock fragments--Averages 35 to 65 percent, mainly pebbles.
- Reaction--Slightly alkaline or moderately alkaline.

Earcree Series

The Earcree series consists of very deep, well drained soils that formed in colluvium derived from

granitic rocks. Earcree soils are on mountains. Slopes are 30 to 50 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 39 degrees F.

Taxonomic class: Coarse-loamy, mixed Pachic Cryoborolls

Typical pedon: Earcree gravelly coarse sandy loam, 30 to 50 percent slopes, is located in an area of map unit 300. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles and 5 percent cobbles.

A1--0 to 3 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, black (10YR 2/1) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine tubular pores; 20 percent pebbles; moderately acid (pH 6.0); clear smooth boundary.

A2--3 to 19 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, black (10YR 2/1) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine and common fine roots; common very fine tubular and many fine interstitial pores; 20 percent pebbles; slightly acid (pH 6.2); gradual smooth boundary.

A3--19 to 31 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, black (10YR 2/1) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; few very fine tubular and many fine interstitial pores; 20 percent pebbles; slightly acid (pH 6.4); gradual smooth boundary.

A4--31 to 36 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, very dark brown (10YR 2/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine, few fine, and medium roots; few very fine tubular and many fine interstitial pores; 20 percent pebbles; slightly acid (pH 6.1); gradual smooth boundary.

C--36 to 60 inches; light brownish gray (2.5Y 6/2) gravelly loamy coarse sand, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine and few medium roots; many fine interstitial pores; 20 percent pebbles; slightly acid (pH 6.1).

Type location: Elko County, Nevada; approximately 10 miles southeast of Contact in an unsectionized area; about 3,000 feet south and 3,400 feet west of the top of Granite Peak; (41 degrees, 41 minutes, 44 seconds north latitude and 114 degrees, 42 minutes, 02 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry late July through September.
Soil temperature: 38 to 43 degrees F.
Average summer temperature: 52 to 59 degrees F.
Mollic epipedon thickness: 30 to 50 inches.
Control section:
Clay content--10 to 18 percent.
Reaction--Neutral to moderately acid.
Rock fragments--5 to 35 percent, mainly pebbles.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 or 2.

C horizon:
Hue--2.5Y or 5Y.
Value--6 or 7 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture--Gravelly sandy loam, very gravelly loamy coarse sand, gravelly loamy coarse sand, gravelly coarse sandy loam or loamy coarse sand.
Rock fragments--10 to 45 percent

Eboda Series

The Eboda series consists of moderately deep, well drained soils that formed in loess over residuum and colluvium derived from mixed rocks. Eboda soils are on side slopes of hills. Slopes are 4 to 15 percent. Mean annual precipitation is about 13 inches, and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine-loamy, mixed, frigid Aridic Argixerolls

Typical pedon: Eboda loam, 4 to 15 percent slopes, is located in an area of map unit 820.

(Colors are for dry soils unless otherwise noted.)

A1--0 to 3 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; 5 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

A2--3 to 9 inches; dark grayish brown (10YR 4/2) 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; common very fine tubular pores; 5 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt1--9 to 17 inches; brown (10YR 5/3) 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 and few fine roots; common very fine tubular pores; few thin clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt2--17 to 30 inches; brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; few thin clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.0); clear smooth boundary.

C--30 to 37 inches; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; 15 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Cr--37 inches; weathered tuff.

Type location: Elko County, Nevada; approximately 15 miles southwest of Jackpot; about 1,500 feet west and 500 feet north of the southeast corner of section 28, T. 47 N., R. 62 E.; (41 degrees, 55 minutes, 38 seconds north latitude and 114 degrees, 57 minutes, 15 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry July through October.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 17 inches. Commonly includes the upper part of the argillic horizon.

Combined thickness of A and Bt horizons: 19 to 33 inches.

Depth to paralithic contact: 23 to 40 inches.

Control section:

Clay content--25 to 35 percent.
Reaction--Neutral or slightly alkaline.
Rock fragments--5 to 15 percent, mainly pebbles.

A horizons:

Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:

Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Structure--Moderate to strong angular or subangular blocky, moderate prismatic in some subhorizon of most pedons.
Texture--Loam or clay loam; with less than 45 percent sand.

C horizon:

Hue--10YR, 2.5Y or 5Y generally reflecting hue of parent material.
Chroma--3 or 4.
Texture--Gravelly sandy clay loam, gravelly clay loam, or gravelly loam.
Rock fragments--15 to 30 percent mainly pebbles.

Ekim Series

The Ekim series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. The Ekim soils are on mountains and hills. Slopes are 15 to 75 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Aridic Calcixerolls

Typical pedon: Ekim very gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 530. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 50 percent pebbles.

A1--0 to 2 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; strong fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 40 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2--2 to 9 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine roots; few very fine tubular and many very fine interstitial pores; common faint silt films on faces of peds and lining pores; less than 1 millimeter thick lime coats on undersides of pebbles; 35 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1--9 to 19 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, fine, few medium, and coarse roots; common very fine tubular and few very fine interstitial pores; common faint silt films on faces of peds and lining pores; 1 to 2 millimeter thick lime coats and pendants on underside of pebbles; 45 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2--19 to 25 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; common very fine interstitial and few very fine tubular pores; 1 to 2 millimeters thick lime coats and pendants on pebbles; 35 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

2R--25 to 33 inches; fractured limestone with 1 to 2 millimeter lime pendants on underside of fractured material.

Type location: Elko County, Nevada; approximately 14 miles north of Wells, about 600 feet west and 900 feet south of the northeast corner of section 04 T. 39 N., R. 62 E.; (41 degrees, 17 minutes, 55 seconds north latitude and 114 degrees, 57 minutes, 20 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October for 45 to 70 consecutive days.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 7 to 12 inches.
Depth to calcic horizon: 7 to 12 inches.
Depth to bedrock: 20 to 40 inches.
Control section:
- Clay content--20 to 30 percent.
- Rock fragments--35 to 50 percent, mainly pebbles.
- Calcium carbonate equivalent--40 to 60 percent for the less than 20 millimeters fraction.
- Reaction--Moderately alkaline or strongly alkaline, increasing with depth.

A horizons:
- Value--4 or 5 dry.
- Chroma--2 or 3.

Bk horizons:
- Value--6 or 7 dry, 4 or 5 moist.
- Chroma--2 or 3.
- Texture--Very gravelly loam or very gravelly clay loam.
- Clay content--20 to 30 percent.
- Structure--Subangular blocky or it is massive.
- Reaction--Moderately alkaline or strongly alkaline.

Elhina Series

The Elhina series consists of moderately deep to a duripan, well drained soils that formed in alluvium derived from volcanic rocks. Elhina soils are on fan remnants. Slopes are 2 to 8 percent. The mean annual precipitation is about 10 inches, and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Abruptic Xerollic Durargids

Typical pedon: Elhina gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 380. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 45 percent pebbles and 5 percent cobbles.

A--0 to 2 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2); moist, moderate thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots, many very fine and fine vesicular pores; 15 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

E--2 to 5 inches; light brownish gray (10YR 6/2) clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure, slightly hard, friable, very sticky and very plastic; common very fine and fine roots; common very fine and fine tubular pores; 5 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

Bt1--5 to 10 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine and fine roots; common very fine and fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.3); clear smooth boundary.

Bt2--10 to 13 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine and fine roots; common very fine and fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.3); clear smooth boundary.

2Bk--13 to 22 inches; pale brown (10YR 6/3) extremely gravelly loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots, common very fine tubular pores; 60 percent pebbles; lime is disseminated; violently effervescent, moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bqkm--22 to 27 inches; white (10YR 8/1) indurated duripan, very pale brown (10YR 7/3) moist; continuous thin silica laminar cap; 60 percent pebbles; violently effervescent; abrupt wavy boundary.

2Bqk1--27 to 47 inches; pale brown (10YR 6/3) extremely gravelly sand, yellowish brown (10YR 5/4) moist, massive; slightly hard, firm, nonsticky and nonplastic; few very fine tubular pores; weak discontinuous cementation; 75 percent pebbles, 10 percent cobbles; violently effervescent, moderately alkaline (pH 8.2); abrupt smooth boundary.

3Bqk2--47 to 60 inches; very pale brown (10YR 7/3) sandy loam, yellowish brown (10YR 5/4) moist; massive, hard, firm, slightly sticky and slightly plastic; many very fine tubular pores; weak discontinuous cementation; 5 percent pebbles; violently effervescent, moderately alkaline (pH 8.2)

Type location: Elko County, Nevada; approximately 13 miles north of Contact; about 1,000 feet south and 2,000 feet west of the northeast corner of section 14, T. 47 N., R. 63 E.; (41 degrees, 58 minutes, 03 seconds north latitude and 114 degrees, 48 minutes, 10 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid July through mid October.
Soil temperature: 45 to 47 degrees F.
Depth to indurated duripan: 20 to 40 inches.
Control section:
Clay content--36 to 50 percent.
Rock fragments--5 to 15 percent pebbles.

A horizon:
Value--2 or 3 moist.
Chroma--2 or 3.

E horizon:
Chroma--2 or 3.
Texture--Clay loam, gravelly clay loam, gravelly loam.
Clay content--20 to 30 percent.
Rock fragments--5 to 20 percent pebbles.

Bt horizons:
Value--5 or 6 dry, 3 through 5 moist.
Chroma--2 through 4.
Structure--Angular blocky or subangular blocky.
Texture--Clay loam, gravelly clay loam, clay or gravelly clay.

Elocin Series

The Elocin series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Elocin soils are on fan remnants. Slopes 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Aridic Palexerolls

Typical pedon: Elocin gravelly silt loam, occasionally flooded, 4 to 15 percent slopes, is located in an area of map unit 1140. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A1--0 to 3 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; strong thick platy structure parting to moderate thin platy; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 20 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

A2--3 to 6 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; strong thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine through medium roots; many very fine interstitial pores; 15 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

A3--6 to 10 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, and few medium roots; many very fine interstitial pores; 10 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

2Bty1--10 to 14 inches; brown (10YR 5/3) very gravelly clay, brown (10YR 4/3) moist; moderate medium prismatic structure parting to strong fine angular blocky; hard, friable, very sticky and very plastic; common very fine and fine exped roots; common very fine tubular pores; many thin clay films on faces of peds and lining pores; few fine irregular gypsum masses; 45 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

2Bty2--14 to 25 inches; light yellowish brown (10YR 6/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; few fine prominent yellowish red (5YR 5/6) moist mottles; moderate medium prismatic structure; very hard, firm, very sticky and very plastic; few very fine and fine exped roots; few very fine tubular pores; continuous stress surfaces; few fine irregular gypsum masses; 50 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

3Btk--25 to 36 inches; light yellowish brown (10YR 6/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; strong medium prismatic structure; extremely hard, extremely firm, very sticky and very plastic; few very fine exped roots; common very fine tubular pores; continuous stress surfaces; common medium soft lime masses; 15 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

3Cqk--36 to 60 inches; very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; few fine prominent reddish brown (5YR 5/4) moist mottles; common fine prominent very dark gray (5YR 3/1) manganese stains, moist; strong medium platy structure; very hard, firm and brittle, nonsticky and nonplastic; few very fine interstitial pores; 10 percent pebbles; many fine soft horizontal lime seams; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada; approximately 12 miles northeast of Wells; about 800 feet east and 500 feet north of the southwest corner of section 23 T. 39 N., R. 63 E.; (41 degrees, 14 minutes, 40 seconds north latitude and 114 degrees, 49 minutes, 35 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from late June through October.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 15 inches, in some pedons, it may include the upper Bt subhorizon.

Depth to continuous brittle matrix and base of Bt horizon: 25 to 39 inches.

Depth to secondary carbonates: 20 to 30 inches.

Control section:
Clay content--Averages 50 to 60 percent.
Rock fragments--Averages 35 to 60 percent pebbles with up to 10 percent cobbles.
Other features--There is an abrupt textural boundary between the A and the Bt horizons.

A horizons:
Chroma--2 or 3.

Bt horizons:
Hue--7.5YR or 10YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--3 through 6.
Texture--Very gravelly clay or very cobbly clay in the upper subhorizons and very gravelly clay or gravelly clay in the lower subhorizon.
Clay content--50 to 60 percent.
Rock fragments--Averages 35 to 60 percent, mainly pebbles with up to 30 percent cobbles common in some subhorizons.
Structure--Moderate or strong, prismatic or angular blocky.
Consistence--Hard to extremely hard dry.
Reaction--Neutral or slightly alkaline.

Cqk horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Loam, gravelly loam or gravelly sandy loam.
Clay content--10 to 20 percent.
Rock fragments--5 to 30 percent, mainly pebbles.
Structure--Moderate or strong platy or it is massive.
Consistence--Very hard or extremely hard, dry; firm and brittle, moist.

Enko Series

The Enko series consists of very deep, well drained soils that formed in loamy alluvium derived from mixed rocks, loess, and volcanic ash. Enko soils are on fan remnants, inset fans, and fan skirts. Slopes are 0 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Coarse-loamy, mixed, mesic Durixerollic Camborthids

Typical pedon: Enko fine sandy loam, 4 to 15 percent slopes, is located in an area of map unit 171. (Colors are for dry soil unless otherwise noted.)

A--0 to 3 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; few very fine interstitial pores; slightly alkaline (pH 7.6); clear smooth boundary.

Bw--3 to 15 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine, and few medium roots; few very fine interstitial pores; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk1--15 to 26 inches; light gray (2.5Y 7/2) fine sandy loam, brown (10YR 5/3) moist; massive; hard, firm and brittle, nonsticky and nonplastic; many very fine roots; few very fine interstitial pores; 40 percent very hard, very firm, 10 to 20 millimeter diameter durinodes; continuous brittle matrix; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk2--26 to 34 inches; white (2.5Y 8/2) fine sandy loam, light brownish gray (2.5Y 6/2) moist; massive; hard, firm and brittle, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; 40 percent very hard, very firm, 10 to 20 millimeters durinodes; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.4); gradual wavy boundary.

Bqk3--34 to 51 inches; white (2.5Y 8/2) fine sandy loam, light gray (5Y 7/2) moist; moderate thin platy structure; hard, firm, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 60 percent discontinuous weak silica and lime cementation; violently effervescent; moderately alkaline (pH 8.4); gradual smooth boundary.

Bqk4--51 to 62 inches; white (10YR 8/1) fine sandy loam, light gray (2.5Y 7/2) moist; massive; very hard, firm and brittle, nonsticky and nonplastic; many very fine interstitial and common fine tubular pores; 50 percent very hard, very firm, 2 to 10 millimeters durinodes; continuous brittle matrix; violently effervescent; lime segregated in many fine filaments; very strongly alkaline (pH 9.0).

Type location: Elko County, Nevada; approximately 8 miles northwest of Wells near Bishop Flats; about 1,000 feet south and 700 feet west of the northeast corner of section 18, T. 38 N., R. 62 E.; (41 degrees, 10 minutes, 57 seconds north latitude and 115 degrees, 00 minutes, 23 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry June through October.
Soil temperature: 49 to 52 degrees F.
Thickness of A and Bw horizons: 12 to 30 inches.
Depth to continuous brittle matrix: 12 to 32 inches.
Control section:
Other features--Below 40 inches some pedons have sandy or gravelly substrata, or substrata containing gypsum crystals. Some pedons have noneffervescent Bq horizons above the Bqk horizon.
Clay content--10 to 18 percent.
Rock fragments--0 to 15 percent pebbles.

A horizon:
Hue--10YR or 2.5Y.
Value--Commonly 6 or 7 dry, with 5 dry in some subhorizons of some pedons, 3 or 4 moist.
Chroma--2 through 4.
Reaction--Neutral through moderately alkaline.

Bw horizon:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 through 4.
Texture--Loam, fine sandy loam, or sandy loam; some pedons have strata of silt loam or clay loam in the upper part where stratified.
Structure--Prismatic, angular blocky, subangular blocky or it is massive.
Consistence--Nonsticky, slightly sticky or sticky, nonplastic, slightly plastic or plastic, wet.
Reaction--Neutral through moderately alkaline, increasing with depth.
Carbonates--Some pedons are calcareous in the lower portion of the horizon.

Bqk horizon:
Hue--10YR, 2.5Y, 5Y.
Value--4 through 7 moist.
Chroma--1 through 4 dry, 2 through 4 moist.
Texture--Loam, sandy loam, fine sandy loam.
Silica cementation--Continuous brittle matrix in horizons 10 to 40 inches thick. Subhorizons not continuously brittle contain 20 to 50 percent durinodes or are 20 to 75 percent discontinuous weakly silica-cemented.
Reaction--Slightly alkaline through very strongly alkaline, commonly increasing with depth.
Other features--Relict iron mottles are common in many pedons. Very gravelly or extremely gravelly substratum phases are common below depths of 40 inches in some pedons.

Fenelon Series

The Fenelon series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks, loess, and volcanic ash. The Fenelon soils are on hills and pediments. Slopes are 4 to 30 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine-loamy, mixed, frigid Aridic Calcic Argixerolls

Typical pedon: Fenelon gravelly silt loam, 4 to 15 percent slopes, is located in an area of map unit 656. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles.

A1--0 to 3 inches; dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 15 percent pebbles; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.
A2--3 to 6 inches; dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial and few fine tubular pores; 20 percent pebbles; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.
Btk1--6 to 11 inches; brown (10YR 5/3) gravelly silty clay loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; many very fine interstitial and few fine tubular

pores; common thin clay films on faces of peds and lining pores; thin lime coats on undersides of rock fragments; 20 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Btk2--11 to 15 inches; brown (10YR 5/3) gravelly silty clay loam, dark brown (10YR 3/3) moist; weak fine angular blocky structure; very hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine interstitial and few fine tubular pores; common thin clay films on faces of peds and lining pores; few thin lime filaments, and thin lime coats on undersides of rock fragments; 15 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Btk3--15 to 23 inches; light brownish gray (10YR 6/2) gravelly silty clay loam, dark grayish brown (10YR 4/2) moist; weak moderate subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine interstitial pores; moderately thick clay films on faces of peds and lining pores; thin lime coats on undersides of rock fragments; 20 percent pebbles; violently effervescent; moderately alkaline (pH 8.3); clear wavy boundary.

Btk4--23 to 37 inches; light gray (10YR 7/2) gravelly silty clay loam, brown (10YR 5/3) moist; massive; hard, friable, moderately sticky and moderately plastic; many very fine, few fine, and medium roots; many very fine interstitial, few very fine and fine tubular pores; few moderately thick clay films on faces of peds and lining pores; common fine irregularly shaped lime seams and thin lime coats on undersides of rock fragments; 25 percent pebbles; 40 percent rock structure; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Cr--37 to 50 inches; light gray (2.5YR 7/2) soft siltstone, grayish brown (2.5YR 5/2) moist.

Type location: Elko County, Nevada; approximately 18 miles northeast of Wells in the Windermere Hills; about 2,375 feet west and 600 feet south of the northeast corner of section 12, T. 39 N., R. 64 E.; (41 degrees, 17 minutes, 02 seconds north latitude and 114 degrees, 41 minutes, 02 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from mid June through October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 10 to 16 inches thick, includes the upper part of the argillic horizon.
Depth to paralithic contact: 20 to 40 inches.
Control section:
Clay content--27 to 35 percent.
Rock fragments--15 to 35 percent, mainly pebbles.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Upper Btk horizons:
Hue--7.5YR or 10YR.
Texture--Gravelly silty clay loam or gravelly clay loam.
Structure--Weak or moderate, subangular blocky or angular blocky.

Lower Btk horizons:
Hue--7.5YR or 10YR.
Value--5 through 7 dry, 4 or 5 moist.
Chroma--2 or 3.
Texture--Gravelly silty clay loam or gravelly clay loam.
Structure--Weak or moderate subangular blocky or it is massive. Rock structure is common in most subhorizons above the paralithic contact.

Fez Series

The Fez series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from tuff. The Fez soils are on hills. Slopes are 15 to 30 percent. The mean annual precipitation is about 18 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy, frigid Mollic Vitrandepts

Typical pedon: Fez loamy sand, 15 to 50 percent slopes, is located in an area of map unit 417. (Colors are for dry soil unless otherwise noted.)

A1--0 to 1 inch; dark grayish brown (10YR 4/2) loamy sand, very dark brown (10YR 2/2) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, and few medium roots; few very fine tubular pores; 5 percent pebbles; neutral (pH 6.8); clear smooth boundary.

A2--1 to 4 inches; brown (10YR 4/3) loamy sand, very dark brown (10YR 2/2) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine, and few medium roots; few very fine tubular pores; 5 percent pebbles; neutral (pH 7.0); clear smooth boundary.

A3--4 to 14 inches; grayish brown (10YR 5/2) loamy sand, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and few medium roots; common very fine tubular pores; 5 percent pebbles; neutral (pH 7.0); clear smooth boundary.

AC--14 to 23 inches; pale brown (10YR 6/3) loamy sand, dark brown (10YR 3/3) moist; common fine faint light yellowish brown (10YR 6/4) mottles; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and few medium roots; common very fine tubular pores; 10 percent tuff pebbles; 10 percent fine and medium subangular blocky rock structure; neutral (pH 7.0); gradual smooth boundary.

Cr--23 inches; pale yellow (2.5Y 8/4) soft, consolidated vitric tuff.

Type location: Elko County, Nevada; approximately 15 miles east of Contact; about 990 feet east and 2,640 feet north of the southwest corner of section 23, T. 45 N., R. 66 E.; (41 degrees, 46 minutes, 23 seconds north latitude and 114 degrees, 28 minutes, 08 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, moist in winter through early summer, dry mid-July to October.
Soil temperature: 42 to 47 degrees F.
Volcanic ash and glass aggregates: 60 to 80 percent.
Mollic epipedon thickness: 10 to 20 inches.
Depth to paralithic contact: 20 to 40 inches.
Control section:
Percent clay--1 to 15 percent clay.
Texture--Loamy sand and loamy fine sand.
Rock fragments--Up to 15 percent, dominantly tuff pebbles.
Reaction--Neutral or slightly alkaline.
Effervescence--Noneffervescent, although some pedons are slightly effervescent.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

AC horizon:
Value--3 or 4 moist.
Chroma--3 or 4.
Structure--Fine or medium subangular blocky.
Other features--Mottles are absent in some pedons.

Forvic Series

The Forvic series consists of moderately deep, well drained soils that formed in alluvium derived from welded tuff. Forvic soils are on fan remnants and pediments. Slopes are 4 to 15 percent. The mean annual precipitation is about 15 inches and the annual temperature is about 42 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Typic Durixerolls

Typical pedon: Forvic gravelly silty clay loam, 4 to 15 percent slopes, is located in an area of map unit 190. (Colors are for dry color unless otherwise noted.)

A1--0 to 5 inches; dark grayish brown (10YR 4/2) gravelly silty clay loam, black (10YR 2/1) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine interstitial and tubular pores; 25 percent pebbles; neutral (pH 7.0); clear smooth boundary.

A2--5 to 13 inches; dark grayish brown (10YR 4/2) gravelly silty clay loam, black (10YR 2/1) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; common very fine tubular pores; 20 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt1--13 to 20 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; very hard, firm, very sticky and very plastic; few very fine, fine and medium roots; few very fine tubular pores; few moderately thick clay films on faces of peds; 20 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2--20 to 22 inches; variegated light yellowish brown (10YR 6/4) and brown (10YR 5/3) very gravelly clay, yellowish brown (10YR 5/4) and brown (10YR 4/3) moist; moderate coarse subangular blocky structure; very hard, firm, very sticky and very plastic; few very fine, fine and medium roots; common very fine and fine tubular pores; common moderately thick clay films lining pores and on faces of peds; 40 percent pebbles; neutral (pH 7.2) abrupt smooth boundary.

Bqm--22 to 30 inches; indurated duripan; 1 to 2 millimeter thick continuous silica laminae.

2Cr--30 inches; welded ash-flow tuff.

Type location: Elko County, Nevada; approximately 17 miles east of Jackpot; about 800 feet north and 1,600 feet east of the southwest corner of section 2, T. 47 N., R. 67 E.; (41 degrees, 59 minutes, 23 seconds north latitude and 114 degrees, 20 minutes, 17 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid-July through mid-October.

Soil temperature: 43 to 45 degrees F.

Mollic epipedon thickness: 20 to 30 inches, including the upper part of Bt horizon

Depth to duripan and thickness of A and Bt horizons: 20 to 40 inches

Depth to paralithic contact: 24 to 40 inches.

Control section:

Clay content--50 to 59 percent.

Rock fragments--5 to 30 percent pebbles.

A horizons:

Value--3 or 4 dry.

Chroma--1 or 2 dry or moist.

Bt horizons:

Hue--7.5YR or 10YR.

Value--2 through 6 dry, 2 through 4 moist.

Chroma--2 through 4.

Texture--Clay, gravelly clay and thin layers of very gravelly clay.

Structure--Subangular blocky, angular blocky, or prismatic.

Gance Series

The Gance series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Gance soils are on fan remnants. Slopes are 2 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, mesic Durixerollic Haplargids

Typical pedon: Gance very gravelly loam, 15 to 30 percent slopes, is located in an area of map unit 131. (Colors are for dry soils unless otherwise noted.) The soil surface is partially covered with 40 percent pebbles.

A--0 to 5 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 3/3) moist; strong fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, common medium, and coarse roots; many very fine interstitial pores; 35 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt--5 to 13 inches; yellowish brown (10YR 5/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, very sticky and very plastic; many very fine, fine, common medium, and coarse roots; many very fine tubular pores; 40 percent pebbles; many moderately thick clay films on faces of peds and lining pores; slightly alkaline (pH 7.4); clear wavy boundary.

Btk--13 to 20 inches; light yellowish brown (10YR 6/4) very gravelly clay, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, friable, very sticky and very plastic; common very fine, few fine, and medium roots; many very fine tubular pores; few thin clay films lining pores; 1 millimeter thick lime and silica coats on the underside of rock fragments; 45 percent pebbles and 10 percent cobbles; slightly effervescent;

moderately alkaline (pH 8.2); clear wavy boundary.

Bqk1--20 to 30 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine and fine interstitial, and common very fine tubular pores; 1 millimeter thick lime and silica coats on rock fragments; 45 percent pebbles, 10 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bqk2--30 to 60 inches; very pale brown (10YR 7/4) extremely gravelly loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm and brittle, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine interstitial and common very fine tubular pores; 1 millimeter thick lime and silica coats on rock fragments; few large rounded soft lime masses, and few irregular lime filaments; 45 percent pebbles, 10 percent cobbles and 5 percent stones; continuous brittle matrix; strongly effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada; about 28 miles north of Wells, about 500 feet west and approximately 1,800 feet south of the northeast corner of section 36, T. 42 N., R. 62 E.; (41 degrees, 29 minutes, 20 seconds north latitude and 114 degrees, 53 minutes, 51 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in some part late October through early June.

Soil temperature: 47 to 52 degrees F.

Depth to base of Bt horizon: 20 to 32 inches.

Depth to carbonates: 13 to 32 inches.

Depth to continuously brittle Bqk horizon: 25 to 38 inches.

Control section:

Clay content--Averages 35 to 55 percent.

Other features--Some pedons have noncemented horizons below the Bqk horizon. Some pedons have buried Bt horizons below 56 inches.

Rock fragments--Averages 35 to 75 percent.

A horizon:

Value--5 or 6 dry, 3 through 5 moist.

Chroma--2 or 3.

Reaction--Neutral to moderately alkaline.

Bt horizon:

Value--4 through 6 dry, 3 through 5 moist.

Chroma--3 or 4.

Texture--Very gravelly clay, extremely gravelly clay or very gravelly sandy clay.

Clay content--40 to 55 percent.

Rock fragments--35 to 75, percent mainly pebbles with up to 20 percent cobbles.

Structure--Fine or medium subangular or angular blocky or fine to coarse prismatic.

Reaction--Slightly alkaline or moderately alkaline, usually increasing with depth.

Bqk horizon:

Value--6 through 8 dry, 5 through 7 moist.

Chroma--2 through 4.

Texture--Very gravelly, extremely gravelly or very cobbly sandy loam or loam.

Rock fragments--35 to 80 percent, of which up to 40 percent is cobbles.

Cementation--Continuously brittle matrix that is hard and firm. Thin subhorizons lack a continuous brittle matrix.

Reaction--Moderately alkaline or strongly alkaline.

Effervescence--Strongly effervescent or violently effervescent.

Geysen Series

The Geysen series consists of very deep, well drained soils that formed in loess and volcanic ash over alluvium derived from mixed rocks. Geysen soils are on fan remnants. Slopes are 2 to 4 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Fine-loamy, mixed, mesic Durixerollic Natrargids

Typical pedon: Geysen silt loam, 2 to 4 percent slopes, is located in an area of the map unit 730. (Colors are for dry soils unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A--0 to 4 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium and thick platy structure; slightly hard, very friable,

slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine vesicular pores; 5 percent pebbles; strongly effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

Btnk--4 to 6 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak fine and medium prismatic structure; hard, friable, very sticky and moderately plastic; many very fine, fine, and few medium roots; many very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 5 percent pebbles; strongly effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

Btnk2--6 to 12 inches; very pale brown (10YR 7/3) clay loam, yellowish brown (10YR 5/4) moist; moderate fine and medium prismatic structure; hard, friable, moderately sticky and moderately plastic; many very fine, fine, and few medium roots; many very fine tubular pores; 10 percent hard 1/4 to 1/2 inch durinodes; many moderately thick clay films on faces of peds and lining pores; many thin lime coats on undersides of pebbles; many fine lime masses and filaments, and few medium and large lime masses; 5 percent pebbles; violently effervescent; very strongly alkaline (pH 9.6); clear smooth boundary.

Bqk1--12 to 22 inches thick; very pale brown (10YR 7/3) loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium prismatic structure; hard, firm and brittle, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine and fine tubular pores; 25 percent hard 1/4 to 1/2 inch durinodes; 5 percent pebbles; common medium and large lime masses; continuous brittle matrix; violently effervescent; very strongly alkaline (pH 9.6); gradual smooth boundary.

Bqk2--22 to 36 inches; very pale brown (10YR 8/3) fine sandy loam, yellowish brown (10YR 5/4) moist; few distinct yellowish brown (10YR 5/4) relict mottles; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine and common very fine roots; many fine tubular pores; 25 percent hard 1/4 to 1/2 inch durinodes; many thin lime coats on undersides of pebbles; many medium and large lime masses; 10 percent pebbles; violently effervescent; 50 percent brittle matrix; very strongly alkaline (pH 9.6); abrupt smooth boundary.

Bk--36 to 43 inches; very pale brown (10YR 7/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine roots; many fine interstitial pores; many moderately thick lime pendants on undersides of pebbles; many fine lime masses and filaments; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

B'qk--43 to 60 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; few fine faint yellowish brown (10YR 5/4) relict mottles; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine and fine tubular pores; 30 percent hard 1/4 to 1/2 inch durinodes; few fine gypsum filaments; many thin lime coats on undersides of pebbles; many fine and medium lime filaments; 10 percent pebbles; violently effervescent; 50 percent brittle matrix; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 28 miles south of Jackpot; about 1,500 feet north and 2,900 feet west of the southeast corner of section 17, T. 43 N., R. 63 E.; (41 degrees, 36 minutes, 45 seconds north latitude and 114 degrees, 52 minutes, 07 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring but dry from mid-June through October.

Soil temperature: 48 to 52 degrees F.

Depth to continuous brittle matrix: 11 to 20 inches.

Control section:

Clay content--Averages 25 to 35 percent.
Reaction--Moderately alkaline to very strongly alkaline.
SAR--13 to 45.
Rock fragments--5 to 15 percent, mainly pebbles.

A horizon:

Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Btnk horizon:

Value--5 through 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Clay loam, silty clay loam, or loam.
Structure--Weak or moderate prismatic.

Bqk horizon:
Value--6 through 8 dry, 4 or 5 moist.
Chroma--2 or 3.
Texture--Loam fine sandy loam or very fine sandy loam.
Rock fragments--5 to 15 percent, mainly pebbles.
Cementation--Some subhorizon within 40 inches is continuously brittle, Bqk subhorizons that lack continuous cementation, may contain up to 50 percent discontinuous weak silica cementation or durinodes in a friable or very friable matrix.
Lime segregations--Few to many, fine to coarse.
Other features--Some pedons have relict mottles below 20 inches. Few gypsum filaments are in some pedons.

Gochea Series

The Gochea series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess and volcanic ash. The Gochea soils are on fan remnants, stream terraces and hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 12 inches, and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine-loamy, mixed, frigid Durargidic Argixerolls

Typical pedon: Gochea loam, 2 to 8 percent slopes, is located in an area of map unit 291. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 25 percent pebbles.

A1--0 to 3 inches; grayish brown (10YR 5/2) loam, dark brown (10YR 3/3) moist; strong very thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine interstitial pores; 10 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

A2--3 to 11 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine tubular pores; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1--11 to 20 inches; light yellowish brown (10YR 6/4) clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; many very fine tubular pores; common thin clay films on faces of peds and lining pores; 10 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt2--20 to 25 inches; light yellowish brown (10YR 6/4) clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; common thin clay films on faces of peds and lining pores; 10 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bq--25 to 53 inches; light yellowish brown (10YR 6/4) gravelly loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and slightly plastic; few fine roots; many very fine tubular pores; 5 to 10 millimeters, hard, firm durinodes; common thin clay films on faces of peds and lining pores; 50 percent discontinuous weak silica cementation and 20 percent, 30 percent pebbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

2Ck--53 to 75 inches; light yellowish brown (10YR 6/4) extremely gravelly sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; 65 percent pebbles; many lime coats on pebbles; slightly effervescent; slightly alkaline (pH 7.8).

Type location: Elko County, Nevada; approximately 12 miles north of Wells; about 1,900 feet east of the northwest corner of section 20, T. 39 N., R. 62 E.; (41 degrees, 15 minutes, 33 seconds north latitude and 114 degrees, 59 minutes, 38 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist winter and spring, dry mid June through October.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 10 to 15 inches which commonly includes the upper part of the argillic horizon.
Depth to Bq horizon: 18 to 25 inches.
Depth to bedrock: Greater than 60 inches except

in bedrock substratum phases where the depth to bedrock is 40 to 60 inches.
Control section:
Clay content--25 to 35 percent.
Rock fragments--5 to 35 percent, mainly pebbles.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bt horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Gravelly clay loam, gravelly sandy clay loam, clay loam.
Clay content--25 to 35 percent.
Rock fragments--5 to 35 percent, mainly pebbles.
Structure--Subangular blocky or angular blocky.

Bq horizons:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 through 4.
Texture--Sandy loam or gravelly loam; cobbly loam or cobbly sandy loam in some pedons.
Rock fragments--0 to 30 percent.
Silica cementation--20 to 80 percent durinodes or has up to 50 percent weak discontinuous cementation.
Reaction--Slightly alkaline to strongly alkaline.

2Ck horizon:
Value--4 or 5 moist.
Texture--Very gravelly or extremely gravelly sand.
Clay content--2 to 8 percent.
Rock fragments--50 to 75 percent pebbles.
Other features--Soils with a bedrock substratum phase lack this horizon.

Gollaher Series

The Gollaher series consists of very shallow, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. Gollaher soils are on mountains and hills. Slopes are 4 to 75 percent. The mean annual precipitation is about 14 inches, and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Lithic Xerorthents

Typical pedon: Gollaher very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 237. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 50 percent pebbles and 5 percent cobbles.

A--0 to 2 inches; light brownish gray (10YR 6/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 45 percent pebbles; thin continuous lime pendants on undersides of pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.
Bk--2 to 6 inches; light brownish gray (10YR 6/2) very gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, few fine, and medium roots; common very fine tubular pores; 50 percent pebbles; continuous thick lime pendants on undersides of pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.
R--6 inches; limestone.

Type location: Elko County, Nevada; about 11 miles southwest of Jackpot near Mahogany Basin; about 700 feet east and 1,500 feet south of the northwest corner of section 11, T. 46 N., R. 63 E.; (41 degrees, 53 minutes, 36 seconds north latitude and 114 degrees, 48 minutes, 35 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from July through October. Moist in all parts for 45 or more days in the 4 months following the winter solstice.
Soil temperature: 43 to 47 degrees F.
Depth to bedrock: 4 to 10 inches.
Control section:
Clay content--15 to 27 percent.
Calcium carbonate equivalent--40 to 60 percent.
Rock fragments--45 to 75 percent, mainly pebbles with up to 5 percent cobbles.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Reaction--Slightly alkaline or moderately alkaline.
Other features--Common to continuous thin or medium lime pendants on undersides of rock fragments.

Bk horizon:
Value--3 or 4 moist.
Chroma--2 or 3.
Texture--Very gravelly loam or extremely gravelly loam.
Reaction--Slightly alkaline or moderately alkaline.
Other features--Common to continuous thin to thick lime pendants on undersides of rock fragments.

Golsum Series

The Golsum series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from tuffaceous rocks. The Golsum soils are on pediments. Slopes are 4 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Aridic Calcic Argixerolls

Typical pedon: Golsum very gravelly clay loam, 4 to 15 percent slopes, is located in an area of map unit 1064. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 50 percent pebbles.

A--0 to 3 inches; dark grayish brown (10YR 4/2) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine interstitial pores; 40 percent pebbles, slightly alkaline (pH 7.4); clear smooth boundary.

Bt1--3 to 7 inches; dark grayish brown (10YR 4/2) gravelly clay, very dark grayish brown (10YR 3/2) moist; moderate fine and medium angular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; common very fine interstitial pores; common moderately thick clay films lining pores and on faces of peds; 20 percent pebbles; slightly alkaline (pH 7.5); clear wavy boundary.

Bt2--7 to 16 inches; brown (7.5YR 4/2) very gravelly clay, dark brown (7.5YR 3/2) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine interstitial pores; many stress surfaces; thin lime coats on undersides of rock fragments; 30 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Btk--16 to 26 inches; brown (7.5YR 5/2) very gravelly clay loam, dark grayish brown (10YR 4/2) moist; strong fine angular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; common very fine interstitial pores many stress surfaces; thick lime coats on undersides of rock fragments; few fine lime filaments; 40 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

2Cr--26 to 32 inches; saprolitic tuff; few thin clay films coating fractures.

Type location: Elko County, Nevada; approximately 11 miles west of Montello; 1,500 feet east and 1,200 feet north of the southwest corner of section 27, T. 40 N., R. 67 E.; (41 degrees, 19 minutes, 15 seconds north latitude and 114 degrees, 23 minutes, 16 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; most in winter and spring, dry late June through October.
Soil temperature: 42 to 47 degrees F.
Mollic epipedon thickness: 10 to 16 inches thick, includes at least the upper Bt horizon.
Depth to secondary carbonates: 15 to 30 inches.
Depth to paralithic contact: 20 to 40 inches.
Control section:
Clay content--Averages 35 to 45 percent.
Rock fragments--Averages 35 to 55 percent, mainly pebbles with some cobbles.

A horizon:
Value--4 or 5 dry.
Chroma--2 or 3.

Bt horizons:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very gravelly clay, very gravelly clay loam.
Structure--Thin subhorizons are gravelly clay, subangular blocky, angular blocky, prismatic or it is massive.
Reaction--Neutral or slightly alkaline.

Btk horizon:
Hue--10YR or 7.5YR.
Value--5 or 6 dry.
Chroma--2 through 4.
Texture--Very gravelly loam or very gravelly clay loam.
Structure--Weak to strong, subangular blocky or angular blocky.
Reaction--Moderately alkaline or strongly alkaline.

Graley Series

The Graley series consists of shallow, well drained soils that formed in residuum and colluvium derived from mixed rocks. Graley soils are on mountains and hills. Slopes are 4 to 50 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Lithic Argixerolls

Typical pedon: Graley extremely gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 224. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 70 percent pebbles.

A1--0 to 4 inches; grayish brown (10YR 5/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, sticky and plastic; many very fine and fine roots; many very fine interstitial pores; 65 percent pebbles; slightly alkaline (pH 7.4); abrupt smooth boundary.
A2--4 to 9 inches; grayish brown (10YR 5/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial and common very fine tubular pores; 60 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.
Bt--9 to 15 inches; pale brown (10YR 6/3) very gravelly clay, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, very sticky and very plastic; many very fine, fine and few medium roots; many very fine tubular pores; common thick clay films on faces of peds and lining pores; 40 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.
R--15 inches; fractured chert, few clay films extending into fractures.

Type location: Elko County, Nevada; approximately 1 mile north of HD Summit; about 250 feet east and 500 feet south of the northwest corner of section 13, T. 40 N., R. 63 E.; (41 degrees, 21 minutes, 26 seconds north latitude and 114 degrees, 48 minutes, 24 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; moist in winter and spring, dry mid-July through late October.
Soil temperature: 42 to 47 degrees F.
Mollic epipedon thickness: 7 to 12 inches, does not include the argillic horizon.
Depth to bedrock: 14 to 20 inches.
Control section:
Clay content--35 to 45 percent.
Rock fragments--35 to 60 percent, mainly pebbles.
Reaction--Neutral or slightly alkaline.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizon:
Hue--7.5YR or 10YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very gravelly clay loam, or very gravelly clay.
Structure--Angular or subangular blocky.
Consistence--Very hard or hard, dry; friable to firm, moist; moderately sticky or very sticky; moderately plastic or very plastic wet.

Gravier Series

The Gravier series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks. Gravier soils are on fan skirts, inset fans and fluve areas on fan remnants. Slopes are 2 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic Typic Calciorthids

Typical pedon: Gravier gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 1041. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A--0 to 4 inches; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine vesicular pores; thin lime coats on undersides of pebbles; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1--4 to 15 inches; light gray (10YR 7/2) gravelly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; thin lime coats on tops and thick lime coats on undersides of pebbles; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2--15 to 21 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; thin lime coats on tops and thick lime coats on undersides of pebbles; 45 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bk3--21 to 34 inches; light gray (10YR 7/2) extremely gravelly sandy loam, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; thin lime coats on tops and thick lime coats on undersides of pebbles; 65 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

3Bk4--34 to 50 inches; light gray (10YR 7/2) gravelly fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; thin lime coats on tops and thick lime coats on undersides of pebbles; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.3); abrupt wavy boundary.

4C--50 to 61 inches; light gray (10YR 7/2) extremely gravelly loamy sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; thin lime coats on undersides of pebbles; 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.3).

Type location: Elko County, Nevada; approximately 7.5 miles east of Montello; about 2,000 feet east and 1,600 feet south of the northwest corner of section 4, T. 39 N., R. 70 E.; (41 degrees, 17 minutes, 41 seconds north latitude and 114 degrees, 03 minutes, 08 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist for short periods in winter and spring, dry late May through November.

Soil temperature: 53 to 59 degrees F.

Depth to calcic horizon: 3 to 5 inches.

Control section:

Percent clay--Averages 8 to 18 percent.

Reaction--Moderately alkaline to strongly alkaline.

Calcium carbonate equivalent--15 to 30 percent in the calcic horizon.

Rock fragments--35 to 60 percent mainly pebbles, with up to 10 percent cobbles.

A horizon:

Hue--10YR or 2.5Y.

Value--6 or 7 dry, 4 through 6 moist.

Chroma--2 through 4.

Bk horizons:

Hue--10YR or 2.5YR.

Value--7 or 8 dry, 4 or 5 moist.

Chroma--2 through 4.

Texture--Stratified gravelly loam through extremely gravelly coarse sandy loam with thin strata of loamy sand to loamy fine sand common in pedons.
Structure--Subangular blocky, single grain or is massive.

C horizon:
Hue--10YR or 2.5YR.
Value--6 through 8 dry, 4 through 6 dry.
Chroma--2 through 4.
Consistence--Loose, soft or slightly hard, dry; nonsticky or slightly sticky and nonplastic or slightly plastic, wet.
Other features--Thin to thick lime coats and pendants coating rock fragments or on undersides.

Grina Series

The Grina series consists of shallow, well drained soils that formed in residuum and colluvium derived from sedimentary rocks. Grina soils are on hills. Slopes are 15 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual air temperature is about 48 degrees F.

Taxonomic class: Loamy, mixed (calcareous), mesic, shallow Xeric Torriorthents

Typical pedon: Grina silty clay loam, 15 to 50 percent slopes, is located in an area of map unit 610. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles and 5 percent cobbles.

A1--0 to 1 inch; light brownish gray (2.5Y 6/2) silty clay loam, dark brown (10YR 4/3) moist; moderate fine granular structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine interstitial pores; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
A2--1 to 4 inches; light gray (2.5Y 7/2) silty clay loam, brown (10YR 5/3) moist; moderate coarse subangular blocky structure; hard, friable, moderately sticky and very plastic; many very fine, fine, and fine roots; common very fine tubular pores; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); gradual wavy boundary.
C1--4 to 10 inches; white (2.5Y 8/2) silty clay loam, light yellowish brown (2.5Y 6/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, fine, medium and coarse roots; few very fine tubular pores; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
C2--10 to 14 inches; white (2.5Y 8/2) silty clay loam, light brownish gray (2.5Y 6/2) moist; massive; hard, friable, moderately sticky and moderately plastic; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
Cr--14 inches; white (2.5Y 8/2) soft calcareous siltstone; violently effervescent.

Type location: Elko County, Nevada; approximately 13 miles north of Wells in the Snake Mountains; about 2,000 feet east and 300 feet north of the southwest corner of section 4, T. 39 N., R. 62 E.; (41 degrees, 17 minutes, 21 seconds north latitude and 114 degrees, 58 minutes, 27 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from mid-June through October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 14 to 20 inches.
Control section:
Clay content--20 to 35 percent, when mixed
Other features--Some pedons have a thin Bk horizon immediately above the paralithic contact.
Calcium carbonate equivalent--20 to 40 percent by weight of less than 20 millimeter fraction.
Rock fragments--0 to 15 percent when mixed.

A horizons:
Hue--10YR or 2.5Y.
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 or 3.

C horizons:
Hue--10YR or 2.5Y.
Value--6 through 8 dry, 5 through 7 moist.
Chroma--2 through 4.

Texture--Loam, silt loam, or silty clay loam.
Structure--Weak or moderate, very fine to medium subangular blocky, very fine or fine angular blocky, very thin to thick platy, or the horizon is massive.
Effervescence--Strongly effervescent or violently effervescent.

Cr horizon:
Hue--10YR through 5Y.
Value--7 or 8 dry, 5 through 7 moist.
Chroma--2 or 3.
Consistence--Soft sedimentary material that is hard to extremely hard dry, and firm to very firm moist.
Other features--Precipitated secondary carbonates or gypsum in filaments or threads and iron-manganese stains are common along fracture planes.

Gumble Series

The Gumble series consists of shallow, well drained soils that formed in residuum and colluvium derived from sedimentary rocks. Gumble soils are on hills and pediments. Slopes are 2 to 15 percent. The mean annual precipitation is about 10 inches, and the mean annual temperature is about 47 degrees F.

Taxonomic class: Clayey, montmorillonitic, mesic, shallow Xerollic Haplargids

Typical pedon: Gumble gravelly sandy loam, 2 to 8 percent slopes, is located in an area of map unit 240. (Colors are for dry soils unless otherwise noted.) The surface is partially covered with 30 percent pebbles.

A1--0 to 2 inches; light brownish gray (10YR 6/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine interstitial pores; 30 percent pebbles; neutral (pH 7.2); clear wavy boundary.
A2--2 to 4 inches; light gray (10YR 7/2) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thick platy structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and common fine roots; many very fine interstitial and few fine tubular pores; 25 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.
Bt1--4 to 9 inches; brown (10YR 5/3) clay, dark brown (10YR 3/3) moist; strong medium prismatic structure parting to strong medium angular blocky; very hard, very firm, very sticky and very plastic; common very fine roots; few very fine interstitial pores; continuous distinct stress surfaces on faces of peds; 5 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.
Bt2--9 to 13 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate medium prismatic structure parting to strong medium angular blocky; very hard, very firm, very sticky and very plastic; common very fine exped roots; common very fine interstitial pores; many moderately thick clay films on faces of peds and lining pores; 5 percent pebbles; slightly alkaline (pH 7.5); clear wavy boundary.
Btk--13 to 16 inches; pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; weak medium prismatic structure; very hard, firm, very sticky and very plastic; few very fine roots; common very fine interstitial and few fine tubular pores; few moderately thick clay films on faces of peds; common fine irregularly shaped lime filaments; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
Cr--16 to 24 inches; pale brown (10YR 6/3) soft siltstone, brown (10YR 4/3) moist; few fine prominent dark yellowish brown (10YR 4/4) mottles.

Type location: Elko County, Nevada; approximately 20 miles northeast of Wells in the Windermere Hills; about 2,400 feet east and 75 feet north of the southwest corner of section 17, T. 39 N., R. 65 E.; (41 degrees, 15 minutes, 27 seconds north latitude and 114 degrees, 39 minutes, 14 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry but are moist in winter and spring.
Soil temperature: 47 to 50 degrees F.
Solum thickness: 14 to 20 inches.
Depth to paralithic contact: 14 to 20 inches.
Reaction: Neutral or slightly alkaline in the upper solum and slightly alkaline or moderately

alkaline in the lower part.
Control section:
Clay content--40 to 60 percent.
Rock fragments--5 to 35 percent, mostly pebbles with up to 10 percent cobbles in some pedons.

A horizons:
Value--5 through 7 dry, 3 or 4 moist.
Chroma--2 or 3.

Bt horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Clay or gravelly clay.
Sand fraction--More than 15 percent sand coarser than very fine sand.

Btk horizon:
Value--4 or 5 moist.
Chroma--3 or 4.
Texture--Silty clay loam or silty clay.
Rock fragments--0 to 5 percent.

Hackwood Series

The Hackwood series consists of very deep, moderately well drained soils that formed in colluvium derived from mixed rocks. Hackwood soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 18 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Fine-loamy, mixed Pachic Cryoborolls

Typical pedon: Hackwood gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 802. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles.

Oi--2 to 0 inches; slightly decomposed aspen leaves and twigs; abrupt wavy boundary.
A1--0 to 4 inches; dark gray (10YR 4/1) gravelly loam, black (10YR 2/1) moist; weak fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine interstitial pores; 15 percent pebbles; neutral (pH 6.8); clear wavy boundary.
A2--4 to 8 inches; dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine and common fine tubular pores; 20 percent pebbles; neutral (pH 6.7); clear wavy boundary.
A3--8 to 30 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; many very fine interstitial, common very fine and fine tubular pores; 25 percent pebbles; neutral (pH 6.7); clear wavy boundary.
2C1--30 to 34 inches; light brownish gray (10YR 6/2) very gravelly clay loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine and fine interstitial and tubular pores; 35 percent pebbles; neutral (pH 6.6); clear wavy boundary.
2C2--34 to 61 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine interstitial, few very fine and fine tubular pores; common thin silt coats lining pores and coating rock fragments; 45 percent pebbles and 5 percent cobbles; slightly acid (pH 6.5).

Type location: Elko County, Nevada; approximately 19 miles north of Wells in the Snake Mountains; about 1,400 feet east and 600 feet south of the northwest corner of section 28, T. 41 N., R. 62 E.; (41 degrees, 25 minutes, 33 seconds north latitude and 114 degrees, 58 minutes, 02 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist late fall through summer, dry September and October,additional soil moisture is supplied by lateral water movement in lower part of the control section or substratum. This additional moisture is transitory and dependent on snowpack and is sporadic.
Soil temperature: 38 to 44 degrees F.
Average summer soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 16 to 35 inches.
Depth to the 2C horizon: 30 to 49 inches.
Control section:
Clay content--Averages 18 to 30 percent.
Reaction--Neutral to slightly acid, decreasing with depth.
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.

2C horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.
Texture--Very gravelly loam, very gravelly clay loam, very gravelly silty clay loam.
Rock fragments--35 to 50 percent pebbles.
Silt coats--Pores lined with very thin reorientated silt coatings or uncoated mineral grains.

Halleck Series

The Halleck series consists of very deep, poorly drained soils that formed in alluvium derived from mixed rocks with a component of loess and volcanic ash. The Halleck soils are on flood plains. Slopes are 0 to 4 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous), frigid Cumulic Haplaquolls

Typical pedon: Halleck silt loam, drained, gravelly substratum, 0 to 2 percent slopes, is located in an area of map unit 521. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure parting to weak very fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; few very fine interstitial pores; few fine soft lime masses; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

A2--3 to 12 inches; gray (10YR 5/1) silt loam, black (10YR 2/1) moist; common fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and common fine roots; common very fine interstitial pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

A3--12 to 21 inches; dark gray (10YR 4/1) silt loam, black (10YR 2/1) moist; common fine granular structure; soft, very friable, moderately sticky and slightly plastic; common fine and few medium roots; many very fine and few fine tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

A4--21 to 45 inches; gray (10YR 5/1) and very dark gray (10YR 3/1) silty clay loam, with variegated very dark gray (10YR 3/1) and black (10YR 2/1) moist; strong very fine angular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few fine roots; many very fine and fine tubular pores; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Cg1--45 to 52 inches; gray (5Y 6/1) silty clay loam, dark gray (5Y 4/1) moist; common fine distinct olive yellow (2.5Y 6/6) mottles; massive; hard, firm, moderately sticky and moderately plastic; few fine tubular pores; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Cg2--52 to 61 inches; gray (5Y 6/1) very gravelly clay loam, dark gray (5Y 4/1) moist; common fine distinct olive yellow (2.5Y 6/6) mottles; massive; slightly hard, friable, moderately sticky and moderately plastic; few fine interstitial pores; 50 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 8 miles northwest of Wells; about 100 feet east of the northwest corner of section 6, T. 38 N., R. 62 E.; (41 degrees, 12 minutes, 56 second north latitude and 115 degrees, 01 minute, 15 seconds west longitude.)

Range in Characteristics:

Soil moisture: Saturated at or near the surface for at least one month during most years, mainly during the late winter through early summer months.

Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 31 to 60 inches.
Control section:
Clay content--20 to 35 percent.
Sand fraction--Less than 15 percent fine sand and coarser.
Reaction--Slightly alkaline or moderately alkaline.
Effervescence--Slightly effervescent to violently effervescent.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 or 2 dry and moist.
Other features--Thin strata of clay loam or loam are present in the lower subhorizons of some pedons. Buried A horizons are in many pedons.

C horizons:
Hue--5GY, 5Y, 2.5Y, 10YR.
Value--6 or 7 dry.
Chroma--1 or 2.
Texture--Stratified loam to silty clay loam, but are dominantly clay loam or silty clay loam.
Other features--Gravelly substratum or drained phases are recognized.

Hapgood Series

The Hapgood series consist of deep, well drained soils that formed in colluvium derived from mixed rocks, loess, and volcanic ash. The Hapgood soils are on mountains and hills. Slopes are 15 to 50 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed Pachic Cryoborolls

Typical pedon: Hapgood very gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 744. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 40 percent pebbles.

A1--0 to 4 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure parting to strong fine and medium granular; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine interstitial pores; 45 percent pebbles; neutral (pH 6.6); clear wavy boundary.
A2--4 to 13 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure parting to moderate fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, medium and common coarse roots; common very fine interstitial and tubular pores; 45 percent pebbles; neutral (pH 6.6); gradual wavy boundary.
A3--13 to 31 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine interstitial and common very fine tubular pores; 45 percent pebbles; slightly acid (pH 6.4); clear wavy boundary.
C--31 to 50 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine interstitial and few fine tubular pores; common thin silt coats on faces of peds and lining pores; 40 percent pebbles and 5 percent cobbles; slightly acid (pH 6.4); clear wavy boundary.
R--50 inches; hard siltstone.

Type location: Elko County, Nevada; approximately 2 miles west of H.D. Summit; about 2,100 feet west and 500 feet south of the northeast corner of section 21, T. 40 N., R. 63 E.; (41 degrees, 20 minutes, 33 seconds north latitude and 114 degrees, 51 minutes, 18 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry late July through early October.
Soil temperature: 38 to 47 degrees F.
Average summer soil temperature: 55 to 59 degrees F.
Mollic epipedon thickness: 16 to 60 inches.
Depth to bedrock: 40 to more than 60 inches.

Control section:
Clay content--18 to 27 percent.
Reaction--Slightly acid or neutral.
Rock fragments--35 to 50 percent, dominantly pebbles.

A horizons:
Value--2 through 5 dry, 2 or 3 moist.
Chroma--1 through 3 in most pedons, chroma of 1 is common only in A1 horizon and chroma of 3 is common only in A3 horizon or below.
Base saturation--50 to 75 percent in upper part.

C horizon:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 through 5 moist.
Chroma--2 through 6.
Texture--Predominantly loam, but strata of fine sandy loam, sandy loam, silt loam or clay loam are permissible.
Other features--Some pedons lack C horizons where the mollic epipedon rests on the bedrock at depths less than 48 inches.

Hardhat Series

The Hardhat series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks over lacustrine sediments. Hardhat soils are on fan skirts. Slopes are 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Durorthidic Torriorthents

Typical pedon: Hardhat silt loam, 2 to 8 percent slopes, is located in Elko County, Nevada, southeast part in an area of map unit 340. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (10YR 4/2) moist; strong thick platy structure parting to strong very thin platy; hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine vesicular pores; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2--2 to 5 inches; light gray (10YR 7/2) silt loam, brown (10YR 4/3) moist; moderate coarse prismatic structure parting to strong very thin platy; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial and few very fine vesicular pores; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqk--5 to 10 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; weak coarse prismatic structure parting to moderate thin platy; hard, friable, slightly sticky and slightly plastic; common very fine, fine, and few medium horizontal exped roots; common very fine tubular pores; few thin glassy silica bridges between mineral grains and coats on faces of peds; few fine lime filaments; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk--10 to 17 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine tubular pores; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

2Bqk--17 to 23 inches; light gray (10YR 7/2) loam, brown (10YR 5/3) moist; strong thin and medium platy structure; very hard, firm, and brittle, slightly sticky and slightly plastic; common very fine horizontal exped roots; many very fine vesicular pores; many fine lime coats on peds and lining some pores; continuous brittle matrix; violently effervescent; very strongly alkaline (pH 9.4); abrupt wavy boundary.

3Bqky1--23 to 32 inches; light gray (10YR 7/2) stratified lenses of sandy loam and gravelly sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; common very fine tubular pores; 20 percent discontinuously weakly silica and lime cemented; 20 percent hard, firm 5 to 15 millimeter durinodes; few fine gypsum filaments; 30 percent pebbles; thin lime coats on undersides of pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

3Bqky2--32 to 56 inches; white (5Y 8/2) very fine sandy loam, olive (5Y 5/3) moist; common fine distinct yellowish brown (10YR 5/6) and brown

(10YR 4/3) moist relict mottles; moderate very thin platy structure; hard, firm, and brittle, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; 30 percent very hard, very firm durinodes; few fine gypsum filaments; continuous brittle matrix; violently effervescent; strongly alkaline (pH 8.6); gradual wavy boundary.

3Bqky3--56 to 60 inches; light gray (2.5Y 7/2) very gravelly sandy loam, grayish brown (2.5Y 5/2) moist; strong thin platy structure; hard, firm, and brittle, nonsticky and nonplastic; few very fine interstitial pores; few fine gypsum filaments; many fine manganese coats on faces of peds; 40 percent pebbles; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.0)

Type location: Elko County, Nevada; approximately 10 miles south of Montello; about 50 feet south and 25 feet west of the northeast corner of section 3, T. 37 N., R. 69 E.; (41 degrees, 07 minutes, 29 seconds north latitude and 114 degrees, 08 minutes, 27 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in the winter and spring, dry late May through early November.
Soil temperature: 53 to 57 degrees F.
Depth to lacustrine material: 15 to 25 inches.
Depth to continuous weak brittle matrix: 10 to 20 inches.
Depth to segregated lime and silica bridging mineral grains: 4 to 10 inches.
Depth to gypsum: 12 to 25 inches.
Control section:
Clay content--8 to 18 percent.
Rock fragments--Averages 5 to 20 percent mainly pebbles.
Reaction--Moderately alkaline to very strongly alkaline.
Calcium carbonate equivalent--Averages 10 to 20 percent.

A horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bqk horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 through 6 moist.
Chroma--3 or 4.
Texture--Silt loam, very fine sandy loam, or loam in the upper subhorizons and stratified very fine sandy loam to gravelly sand in the lower subhorizons.
Structure--Weak prismatic, weak to strong platy or it is massive.
Silica-lime cementation--The upper subhorizon has few to many silica bridges or coats, but the matrix is friable or very friable. Some subhorizon has continuous brittle matrix within a depth of 10 to 20 inches.

Bqky horizons:
Hue--10YR, 2.5Y, or 5Y.
Value--7 or 8 dry, 5 through 7 moist.
Chroma--2 through 4.
Texture--Stratified very fine sandy loam to very gravelly sandy loam.
Rock fragments--Pebbles are lacking in some pedons.
Structure--Platy or it is massive.
Gypsum crystals--Few or common.
Relict mottles or manganese coats--Are common in any subhorizon.

Heckison Series

The Heckison series consists of moderately deep to an indurated duripan, well drained soils that formed in alluvium derived from volcanic rocks and volcanic ash. Heckison soils are on hills and plateaus. Slopes are 2 to 8 percent. The mean annual precipitation is about 12 inches, and the mean annual temperature is about 45 degrees.

Taxonomic class: Fine-loamy, mixed, frigid Aridic Durixerolls

Typical pedon: Heckison silt loam, 2 to 8 percent slopes, is located in an area of map unit 260. (Colors are for dry soil unless otherwise noted.)

A--0 to 6 inches; dark grayish brown (10YR 4/2) silt 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, few fine, medium and coarse roots; common very fine

and fine tubular and interstitial pores; 5 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

Bt1--6 to 18 inches; dark grayish brown (10YR 4/2) silt loam, very dark brown (10YR 2/2) moist; moderate coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine and fine tubular pores; few clay films lining pores; 10 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

Bt2--18 to 28 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate coarse subangular blocky; very hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine and fine tubular pores; common moderately thick clay films lining pores; 10 percent pebbles; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bk--28 to 33 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 4/3) moist; weak medium prismatic structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bqkm--33 to 39 inches; very pale brown (10YR 7/3) indurated duripan, pale brown (10YR 6/3) moist; 1 to 2 millimeter thick indurated continuous laminae cap; abrupt wavy boundary.

R--39 inches; welded tuff.

Type location: Elko County, Nevada; approximately 11 miles east of Jackpot; about 1,300 feet east of the northwest corner of section 11, T. 47 N., R. 66 E.; (41 degrees, 59 minutes, 05 seconds north latitude and 114 degrees, 27 minutes, 25 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry late June through October.
Soil temperature: 45 to 47 degrees F.
Mollic epipedon thickness: 7 to 19 inches.
Depth to secondary carbonates: 12 to 20 inches.
Depth to duripan: 21 to 36 inches.
Depth to bedrock: 22 to 40 inches.
Control section:
Clay content--24 to 35 percent.
Rock fragments--0 to 15 percent pebbles.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Value--4 through 6 dry, 2 through 4 moist
Chroma--2 through 4.
Textures--Silt loam, silty clay loam.

Bk horizon:
Value--6 through 8 dry, 4 through 7 moist.
Chroma--2 through 4.
Texture--Silt loam, gravelly silt loam or very fine sandy loam.
Effervescence--Strongly effervescent or violently effervescent.

Hogmalat Series

The Hogmalat series consists of very shallow and shallow, well drained soils that formed in residuum derived from volcanic rocks. Hogmalat soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 20 inches, and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed Argic Lithic Cryoborolls

Typical pedon: Hogmalat very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 747. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles and 5 percent cobbles.

A--0 to 3 inches; very dark grayish brown (10YR 3/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 45 percent pebbles; moderately acid (pH 5.8); abrupt smooth boundary.

Bt--3 to 10 inches; brown (10YR 5/3) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; many very fine tubular pores; few thin colloid stains on mineral grains; 45

percent pebbles; moderately acid (pH 5.8); abrupt smooth boundary.
R--10 inches; welded tuff.

Type location: Elko County, Nevada; approximately 10 miles west of Jackpot; about 150 feet north and 1,200 feet west of the southeast corner of section 9, T. 47 N., R. 63 E.; (41 degrees, 58 minutes, 15 seconds north latitude and 114 degrees, 50 minutes, 15 second west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry late July through September.
Soil temperature: 37 to 40 degrees F.
Summer temperature: 54 to 57 degrees F.
Mollic epipedon thickness: 9 to 20 inches.
Depth to bedrock: 9 to 20 inches.
Base saturation: 50 to 55 percent.
Control section:
Clay content--24 to 34 percent.
Rock fragments--35 to 55 percent, mainly pebbles.
Reaction--Strongly acid to moderately acid.

A horizon:
Value--3 through 5 dry, 2 or 3 moist.
Chroma--1 through 3.

Bt horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.
Textures--Very gravelly loam, very gravelly clay loam.
Structure--Weak or moderate subangular blocky or angular blocky.

Holborn Series

The Holborn series consists of very shallow, well drained soils that formed in residuum and colluvium derived from mixed rocks. Holborn soils are on hills and pediments. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy, mixed (calcareous), mesic, shallow Xeric Torriorthents

Typical pedon: Holborn gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 1060. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 25 percent pebbles.

A1--0 to 1 inch; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine, common fine, and few medium tubular pores; 30 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.
A2--1 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; common very fine and few fine tubular pores; 15 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
Bk--3 to 7 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine, very fine, and few medium roots; common very fine and few fine tubular pores; thin lime coats on undersides of pebbles; 25 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.
Cr--7 to 13 inches; soft weathered sandstone.

Type location: Elko County, Nevada; approximately 7 miles west of Montello; about 2,500 feet west and 2,600 feet south of the northeast corner of section 5 T. 39 N., R. 68 E.; (41 degrees, 17 minutes, 45 seconds north latitude and 114 degrees, 18 minutes, 19 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June through October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 6 to 10 inches.
Control section:
Percent clay--Averages 18 to 30.
Rock fragments--15 to 35 percent, mainly pebbles.
Reaction--Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent--Averages 5 to 30 percent.
Effervescence--Strongly effervescent to violently effervescent.

A horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Other features--Combined thickness of the A horizon is 1 to 6 inches.

Bk horizon:
Hue--2.5YR or 10YR.
Value--5 through 7 dry, 4 through 6 moist.
Chroma--3 or 4.
Texture--Gravelly loam, gravelly clay loam.

Hooplite Series

The Hooplite series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived volcanic rocks. Hooplite soils are on hills. Slopes range from 4 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic Lithic Xerollic Haplargids

Typical pedon: Hooplite very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 660. (Colors are for dry soil unless otherwise noted.)

A1--0 to 1 inch; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many fine, common medium, and coarse vesicular pores; 55 percent pebbles; 5 percent of horizon has slight effervescence; slightly alkaline (pH 7.6); abrupt wavy boundary.
A2--1 to 3 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine, fine, and common medium and coarse vesicular pores; 35 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.
A3--3 to 6 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and fine few medium roots; common very fine and fine tubular pores; 35 percent pebbles, slightly alkaline (pH 7.8); clear wavy boundary.
Bt--6 to 9 inches; brown (10YR 5/3) very gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine angular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; few very fine, fine and medium roots; few very fine and fine tubular pores; very few thin clay films on faces of peds and on pebbles; 50 percent of rock fragments have very thin lime and silica pendants; 5 percent of horizon has fine, platelike lime and silica fragments; 50 percent pebbles; 5 percent of horizon has slight effervescent; moderately alkaline (pH 8.0).
R--9 inches; highly fractured hard siltstone with brown (10YR 5/3) clay loam in fractures; few very fine, fine and medium roots in fractures.

Type location: Elko County, Nevada; approximately 2 miles north of Boies Reservoir approximately 1,500 feet north and 1,500 feet west of the southeast corner of section 1, T. 43 N., R. 62 E.; (41 degrees, 38 minutes, 54 seconds north latitude and 114 degrees, 54 minutes, 03 seconds east longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist during winter and early spring, dry mid-June through October.
Soil temperature: 47 to 52 degrees F.
Depth to hard bedrock: 6 to 14 inches.
Control section:
Clay content--18 to 25 percent, when mixed.
Rock fragments--35 to 50 percent pebbles, 0 to 10 percent cobbles.
Reaction--Slightly alkaline or moderately alkaline.
Other features--Some pedons have up to 3 inches of highly fractured bedrock overlying the lithic contact.

A horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.

Effervescence--Noneffervescent or slightly effervescent.

Bt horizon:
Hue--10YR or 7.5YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very gravelly loam, very gravelly clay loam.
Rock fragments--35 to 50 percent.
Structure--Subangular blocky, angular blocky or granular.
Effervescence--Slightly effervescent or strongly effervescent.

Hopeka Series

The Hopeka series consists of very shallow, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. Hopeka soils are on hills and mountains. Slopes are 15 to 75 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, frigid Lithic Xeric Torriorthents

Typical pedon: Hopeka very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 2051. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 50 percent pebbles, 10 percent cobbles, and 5 percent stones.

A--0 to 3 inches; light gray (10YR 7/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many fine interstitial and tubular pores; 35 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
C--3 to 9 inches; light gray (10YR 7/2) very gravelly loam, dark brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, medium and coarse roots; common very fine and fine tubular pores; 50 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); abrupt irregular boundary.
R--9 inches; hard, fractured limestone.

Type location: Elko County, Nevada; approximately 10 miles northwest of Montello; about 1,260 feet east and 1,675 feet north of the southwest corner of section 12, T. 40 N., R. 67 E.; (41 degrees, 21 minutes, 57 seconds north latitude and 114 degrees, 20 minutes, 57 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry June through mid October.
Soil temperature: 43 to 47 degrees.
Depth to bedrock: 4 to 10 inches.
Control section:
Clay content--18 to 25 percent.
Effervescence--Violently effervescent, but some surface layers are strongly effervescent. Calcium carbonate equivalent 40 to 85 percent.
Reaction--Moderately alkaline or strongly alkaline.
Rock fragments--35 to 60 percent limestone or dolomite pebbles, cobbles or stones.

A horizon:
Hue--10YR or 7.5YR.
Value--5 through 7 dry, 3 or 4 moist.
Chroma--2 or 3.

C horizon:
Hue--10YR or 7.5YR.
Value--5 through 7 dry, 3 or 4 moist.
Chroma--2 or 3.
Structure--Weak to moderate subangular blocky or it is massive.

Hundraw Series

The Hundraw series consists of very shallow, well drained soils that formed in residuum and colluvium derived from sedimentary rocks, loess, and volcanic ash. The Hundraw soils are on hills and pediments. Slopes are 2 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed (calcareous) mesic, shallow Xeric Torriorthents

Typical pedon: Hundraw gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 3032. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A1--0 to 1 inch; light gray (2.5Y 7/2) gravelly loam, grayish brown (2.5Y 5/2) moist; moderate medium and thick platy structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial, few fine vesicular and common fine and medium tubular pores; 25 percent pebbles; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary.

A2--1 to 3 inches; light gray (10YR 7/1) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thin and medium platy structure; slightly hard, very friable; slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine interstitial and tubular pores; 15 percent pebbles; thin lime coats on undersides of pebbles; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary.

Bk--3 to 8 inches; light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable; slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine and fine horizontal roots at the lower horizon boundary; common very fine interstitial and few fine tubular pores; 10 percent fine soft tuff fragments; medium lime pendants on the undersides of pebbles; 5 percent hard pebbles; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary.

Cr--8 inches; white (2.5Y 8/2) soft, fractured tuff, light brownish gray (2.5Y 6/2) moist; moderately thick lime coats and few very fine roots along fractures.

Type location: Elko County, Nevada; approximately 15 miles northwest of Montello; about 625 feet east and 1,625 feet south of the northwest corner of section 5 T. 40 N., R. 67 E.; (41 degrees, 22 minutes, 44 seconds north latitude and 114 degrees, 25 minutes, 42 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry June through October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 4 to 10 inches.
Control section:
Percent clay--8 to 18 percent.
Rock fragments--Averages 5 to 20 percent, mainly pebbles.
Effervescence--Strongly effervescent or violently effervescent.
Calcium carbonate equivalent--5 to 15 percent.

A horizons:
Hue--10YR, 2.5Y and 5Y
Value--6 or 7; 3 through 5 moist.
Chroma--2 through 4.

Bk horizon:
Hue--10YR, 2.5Y and 5Y.
Value--6 or 7, 4 or 5 moist.
Chroma--2 through 4.
Clay content--8 to 18 percent.
Rock fragments--Averages 5 to 15 percent, mostly pebbles.
Structure--Weak or moderate, fine or medium subangular blocky.

Hunewill Series

The Hunewill series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks. They are on inset fans and fan remnants. Slopes are 2 to 30 percent. Mean annual temperature is about 49 degrees F.; and the mean annual precipitation is about 8 inches.

Taxonomic class: Loamy-skeletal, mixed, mesic, Xerollic Haplargids

Typical pedon: Hunewill gravelly loam, 2 to 4 percent slopes, is located in an area of map unit 082. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles.

Ap--0 to 3 inches; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 3/3) moist; weak very fine granular structure; soft, very friable, nonsticky and slightly plastic; many very fine roots; many very fine tubular pores; 15 percent

pebbles; neutral (pH 7.2); abrupt wavy boundary.
A2--3 to 6 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; 20 percent pebbles; neutral (pH 7.2); clear wavy boundary.
Bt1--6 to 16 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and lining pores; 35 percent pebbles; neutral (pH 7.2); clear wavy boundary.
2Bt2--16 to 20 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and lining pores; 45 percent pebbles and 10 percent cobbles; neutral (pH 7.3); clear wavy boundary.
2C--20 to 61 inches; pale brown (10YR 6/3) extremely gravelly sand, brown (10YR 4/3) moist; single grain, loose, nonsticky and nonplastic; 55 percent pebbles; 20 percent cobbles; neutral (pH 7.2).

Type location: Elko County, Nevada; approximately 6 miles northwest of Wells in Bishop Flats; about 1,000 feet east and 2,500 feet north of the southwest corner of section 8, T. 38 N., R. 62 E.; (41 degrees, 11 minutes, 32 seconds north latitude and 114 degrees, 59 minutes, 58 west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from June through October.
Soil temperature: 47 to 53 degrees F.
Combined thickness of A and Bt horizons: 10 to 20 inches.
Control section:
Clay content--18 to 27 percent.
Rock fragments--35 to 50 percent.
Other features--Darker value dry reflects primarily lithochromic colors.

A horizons:
Value--5 or 6 dry, 3 or 4 moist. When the upper 7 inches are mixed, the value is more than 5.5 dry.
Chroma--2 or 3.

Bt1 horizon:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Very gravelly loam, very gravely sandy clay loam or very gravelly clay loam.
Clay content--25 to 35 percent.
Rock fragments--35 to 50 percent, mainly pebbles.
Reaction--Neutral or slightly alkaline.

2Bt2 horizon:
Texture--Very gravelly loam or very gravelly sandy loam.
Clay content--5 to 15 percent.
Rock fragments--35 to 60 percent, mainly pebbles.
Reaction--Neutral or slightly alkaline.

2C horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Extremely gravelly or cobbly sand or loamy sand.
Clay content--0 to 2 percent.
Rock fragments--60 to 80 percent rounded pebbles and cobbles.
Reaction--Neutral or slightly alkaline.
Other features--A few very thin lime coats are on the bottom of larger cobbles in some pedons.

Hunnton Series

The Hunnton series consists of moderately deep, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. The Hunnton soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual air temperature is about 48 degrees F.

Taxonomic class: Fine, montmorillonitic, mesic Xerollic Durargids

Typical pedon: Hunnton silt loam, 2 to 8 percent slopes, is located in an area of map unit 094. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles.

A--0 to 8 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate very thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine and fine interstitial pores; 5 percent pebbles; moderately alkaline (pH 7.9); clear smooth boundary.

Bt1--8 to 14 inches; light yellowish brown (10YR 6/4) clay, brown (10YR 4/3) moist; moderate medium prismatic structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; many moderately thick clay films on faces of peds; 5 percent pebbles; moderately alkaline (pH 7.9); clear smooth boundary.

Bt2--14 to 22 inches; light yellowish brown (10YR 6/4) clay, brown (10YR 4/3) moist; moderate fine prismatic structure parting to strong medium subangular blocky; hard, firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; many thick clay films on faces of peds and lining pores; 5 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

Bqkm--22 to 36 inches; very pale brown (10YR 7/3) indurated duripan, very pale brown (10YR 7/4) moist; massive; very rigid; few very fine interstitial pores; continuous 1 to 2 millimeter thick horizontal silica laminae at upper surface; violently effervescent; 45 percent pebbles; moderately alkaline (pH 8.4); clear smooth boundary.

2Cqk1--36 to 50 inches; very pale brown (10YR 8/3) very gravelly loamy sand, very pale brown (10YR 7/4) moist; massive; very hard, very firm, nonsticky and nonplastic; many very fine interstitial pores; 45 percent pebbles; 40 percent strong silica cementation and 30 percent weak silica cementation; violently effervescent; moderately alkaline (pH 8.4); gradual smooth boundary.

2Cqk2--50 to 60 inches; very pale brown (10YR 8/3) extremely gravelly loamy sand, very pale brown (10YR 7/4) moist; massive; hard, firm, nonsticky and nonplastic; 70 percent pebbles; 70 percent discontinuous weak silica cementation; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 10 miles northwest of Wells; about 2,200 feet north and 700 feet west of the southeast corner of section 26, T. 39 N., R. 61 E.; (41 degrees, 14 minutes, 11 seconds north latitude and 115 degrees, 02 minutes, 35 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from June through October.
Soil temperature: 47 to 52 degrees F.
Depth to duripan: 20 to 40 inches.
Depth to lime: 19 to 32 inches.
Abrupt features: Greater than 15 percent increase in clay between the A and the Bt1 horizon.
Control section:
Clay content--45 to 55 percent.
Other features--Some pedons have a 4 to 8 inch thick continuously brittle matrix Bqk horizon above the duripan.
Rock fragments--0 to 25 percent, mainly pebbles.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Reaction--Slightly alkaline or moderately alkaline.

Bt horizons:
Hue--10YR or 7.5YR.
Value--5 through 7 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Clay or gravelly clay.
Clay content--45 to 55 percent.
Rock fragments--0 to 25 percent, mainly pebbles.
Structure--Weak or moderate, very fine to medium subangular or angular blocky or prismatic.
Reaction--Slightly alkaline or moderately alkaline.
Effervescence--Noneffervescent in the upper subhorizons, noneffervescent to strongly effervescent in the lower subhorizons.
Other features--Some pedons have a 4 to 7 inch thick loam or clay loam Bt1 horizon with thin clay films.

Bqkm horizon:
Value--7 or 8 dry, 4 through 7 moist.
Chroma--2 or 3 dry, 3 or 4 moist.
Structure--Massive, or has weak medium to very thick platy structure.
Other features--Some pedons have strongly silica cemented horizons with 40 to 60 percent pebbles below the indurated duripan.

2Cqk horizons:
Value--6 through 8 dry, 4 through 7 moist.
Chroma--2 through 4 dry, 3 or 4 moist.
Texture--Very gravelly sandy loam, very gravelly loamy sand or extremely gravelly loamy sand.
Clay content--2 to 10 percent.
Rock fragments--40 to 70 percent, mostly pebbles.
Reaction--Moderately alkaline or strongly alkaline.
Cementation--This horizon has a discontinuously to continuously brittle matrix with discontinuous one-half to 1 millimeter thick silica laminae common. Some pedons have up to 40 percent strong discontinuous silica cementation.

Hussell Series

The Hussell series consists of very deep, well drained soils that formed in alluvium derived from granitic rocks. The Hussell soils are on fan remnants. Slopes are 2 to 30 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Coarse-loamy, mixed, mesic Durixerollic Haplargids

Typical pedon: Hussell coarse sandy loam, 8 to 30 percent slopes, is located in an area of map unit 320. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 2 percent pebbles.

A--0 to 4 inches; grayish brown (10YR 5/2) coarse sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, fine, and few medium and coarse roots; many very fine interstitial, and common very fine tubular pores; 5 percent pebbles; neutral (pH 7.2); clear smooth boundary.

Bt1--4 to 9 inches; brown (10YR 5/3) coarse sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium, and few coarse roots; common very fine tubular pores; few thin clay films on faces of peds; 10 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.

Bt2--9 to 16 inches; yellowish brown (10YR 5/4) gravelly coarse sandy loam; dark yellowish brown (10YR 3/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, medium, and coarse roots; common very fine tubular pores; common thin clay films bridging mineral grains; 15 percent pebbles; moderately alkaline (pH 8.0) clear smooth boundary.

2Bqk1--16 to 26 inches; pale brown (10YR 6/3) gravelly loamy coarse sand, brown (10YR 4/3) moist; massive, very hard, firm and brittle, nonsticky and nonplastic; few very fine, fine and medium roots; few very fine tubular pores; 50 percent durinodes in a continuous brittle matrix, violently effervescent; 25 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

2Bqk2--26 to 56 inches; pale brown (10YR 6/3) gravelly loamy coarse sand, brown (10YR 4/3) moist; massive; slightly hard, very friable; nonsticky and nonplastic; common very fine and few fine roots; few very fine tubular pores; 35 percent durinodes in a discontinuous weakly cemented matrix; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

3C--56 to 65 inches; very pale brown (10YR 7/3) gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; many very fine interstitial pores; strongly effervescent; 25 percent pebbles; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 14 miles south of Jackpot; about 500 feet south and 2,500 feet east of the northwest corner of section 22 T. 45 N., R. 64 E.; (41 degrees, 46 minutes, 42 seconds north latitude and 114 degrees, 43 minutes, 30 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry mid-June through late October.
Soil temperature: 47 to 52 degrees F.
Depth to 2Bqk horizon: 14 to 20 inches.

A horizon:
Value--Tend to reflect some of the darker lithochromic colors.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.
Organic carbon content--Averages 0.3 to 0.6 percent when mixed.

Bt horizons:
Value--5 or 6 dry, 3 or 4 moist. Value of 5 dry and 3 moist tend to reflect lithochromic colors.
Chroma--3 or 4.
Texture--Coarse sandy loam, gravelly coarse sandy loam.
Clay content--8 to 15 percent.
Rock fragments--5 to 30 percent, mainly pebbles.
Structure--Subangular blocky or it is massive.
Reaction--Slightly alkaline or moderately alkaline.

2Bqk and 3C horizons:
Value--6 or 7 dry, 4 or 5 moist.
Texture--Gravelly loamy coarse sand, loamy coarse sand, gravelly coarse sand and coarse sand.
Clay content--0 to 10 percent.
Rock fragments--5 to 30 percent, mainly pebbles.
Reaction--Moderately alkaline or strongly alkaline.
Cementation--Has at least one subhorizon within 40 inches that contains a continuous brittle matrix.

Igdell Series

The Igdell series consists of moderately deep to a indurated duripan, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Igdell soils are on fan remnants. Slopes are 2 to 30 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Abruptic Aridic Durixerolls

Typical pedon: Igdell very gravelly clay loam, 2 to 8 percent slopes is located in an area of map unit 022. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles.

A--0 to 2 inches; grayish brown (10YR 5/2) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine interstitial pores; 40 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.
2Bt1--2 to 9 inches; dark grayish brown (10YR 4/2) gravelly clay, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine and few medium roots; many very fine and few fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 15 percent pebbles; neutral (pH 7.3); clear wavy boundary.
2Bt2--9 to 14 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; many very fine and few fine tubular pores; few thin clay films on faces of peds and lining pores; 15 percent pebbles and 5 percent cobbles; neutral (pH 7.3); abrupt smooth boundary.
2Bt3--14 to 28 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; strong medium prismatic structure; extremely hard, extremely firm, very sticky and very plastic; few very fine exped roots; common very fine tubular pores; many stress surfaces; 5 percent pebbles; neutral (pH 7.3); clear wavy boundary.
2Bt4--28 to 31 inches; light yellowish brown (10YR 6/4) silty clay, yellowish brown (10YR 5/4) moist; few fine prominent manganese stains; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; few very fine roots; common very fine interstitial pores; common thin clay films on faces of peds and lining pores; few thin lime filaments; 5 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.
2Btqk--31 to 37 inches; light yellowish brown

(10YR 6/4) gravelly loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; few thin clay films on faces of peds and lining pores; 15 percent pebbles; discontinuous weak silica cementation; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

2Bqkm--37 to 60 inches; very pale brown (10YR 7/4) indurated duripan, brownish yellow (10YR 6/6) moist; very rigid; abrupt smooth boundary.

Type location: Elko County, Nevada; approximately 20 miles north of Wells about 1,000 feet east and 1,750 feet south of the northwest corner of section 25, T. 41 N., R. 62 E.; (41 degrees, 25 minutes, 03 seconds north latitude and 114 degrees, 54 minutes, 36 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from late June through October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 14 inches, includes upper part of argillic horizon.
Depth to lime: 20 to 33 inches.
Depth to duripan: 20 to 40 inches.
Control section:
Clay content--Averages 45 to 60 percent.
Rock fragments--10 to 35 percent, mainly pebbles.

A horizons:
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

2Bt horizons:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 through 5 moist.
Chroma--2 through 4.
Texture--Clay, gravelly clay or silty clay. Gravelly loam, gravelly clay loam, or very gravelly sandy clay loam in the subhorizon immediately above the duripan.
Rock fragments--10 to 40 percent in any one subhorizon but averages less than 35 percent.
Reaction--Neutral to moderately alkaline increasing with depth.
Other features--At least one subhorizon in the upper part has 60 to 70 percent clay.

2Bqkm horizon:
Value--7 or 8 dry.
Structure--Thick platy or is massive.
Thickness--10 to over 30 inches thick with the base extending below 40 inches.

Ixian Series

The Ixian series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from mixed rocks over lacustrine sediments. The Ixian soils are on lake plains. Slopes are 0 to 4 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous), mesic Aquic Torriorthents

Typical pedon: Ixian silt loam, 0 to 2 percent slopes, is located in an area of map unit 186. (Colors are for dry soil unless otherwise noted.)

A--0 to 4 inches; light gray (10YR 7/2) silt loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure; hard, firm, very sticky and moderately plastic; few very fine roots; many very fine, fine, and common medium vesicular pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.

C--4 to 12 inches; light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; moderate thin platy structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine interstitial pores; violently effervescent; very strongly alkaline (pH 9.6); clear smooth boundary.

Ck--12 to 42 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; massive; very hard, very firm, very sticky and very plastic; common very fine and few fine roots; many very fine and few fine interstitial pores; few fine seams and soft masses of lime; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.

2Cy--42 to 48 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; few fine distinct light yellowish brown (10YR 6/4) mottles moist; weak thin platy structure; hard, firm, very sticky and very plastic; few very fine roots; many very fine and few fine interstitial

pores; common fine seams and soft masses of gypsum; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.
3C'--48 to 51 inches; very pale brown (10YR 7/3) loamy fine sand, brown (10YR 5/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and few fine interstitial pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.
4C'y--51 to 63 inches; very pale brown (10YR 7/3) silty clay, brown (10YR 5/3) moist; common fine prominent yellowish brown (10YR 5/6) mottles moist; weak thin platy structure; very hard, very firm, very sticky and very plastic; many very fine interstitial pores; many silt coats lining pores; common fine and medium seams and soft masses of gypsum; violently effervescent; very strongly alkaline (pH 9.6).

Type location: Elko County, Nevada; approximately 2 miles east of Montello; about 2,200 feet north and 200 feet west of the southeast corner of section 16 T. 39 N., R. 69 E.; (41 degrees, 15 minutes, 41 seconds north latitude and 114 degrees, 09 minutes, 30 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in July through October. The seasonal high water table is at 40 to 60 inches. It is also subject to short periods of ponding in spring.
Soil temperature: 53 to 59 degrees F.
Depth to lacustrine sediments: 40 to 60 inches.
Control section:
Clay content--25 to 35 percent.
Calcium carbonate equivalent--10 to 30 percent.
Other features--10 to 30 percent durinodes occur below 40 inches in some pedons.

A horizon:
Hue--10YR or 2.5YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

C and Ck horizons:
Hue--10YR or 2.5YR.
Value--7 or 8 dry
Chroma--2 or 3.
Texture--Silt loam or silty clay loam with less than 15 percent, fine or coarser sands.
Structure--Very thin or thin platy or it is massive.

Cy horizons:
Hue--10YR or 2.5YR.
Value--7 or 8 dry.
Chroma--2 or 3.
Texture--Stratified silty clay loam to silty clay with thin to thick lenses of loamy fine sand common in most pedons.
Structure--Platy or is massive.
Mottles--Few to many, distinct or prominent.

Izar Series

The Izar series consists very shallow and of shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from mixed rocks. Izar soils are on hills pediments. Slopes are 2 to 50 percent. The mean annual precipitation is about 9 inches, and the mean annual temperature is about 46 degrees F.

Taxonomic class: Loamy-skeletal, mixed (calcareous), mesic Lithic Xeric Torriorthents

Typical pedon: Izar very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 685. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 60 percent pebbles.

A1--0 to 1 inch; light brownish gray (2.5Y 6/2) very gravelly loam, dark grayish brown (2.5Y 4/2) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial, common very fine, and fine vesicular pores; 35 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.
A2--1 to 5 inches; light brownish gray (2.5Y 6/2) very gravelly loam, dark grayish brown (2.5Y 4/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial pores; 35 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.
Bk1--5 to 8 inches; light brownish gray (2.5Y 6/2) very gravelly loam, dark grayish brown (2.5Y

4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slighty sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine interstitial pores; common very thin lime coats on the undersides of pebbles; 50 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk2--8 to 11 inches; pale yellow (2.5Y 7/4) very gravelly loam, light olive brown (2.5Y 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine interstitial pores; common very thin lime coats on the undersides of pebbles; 50 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

R--11 inches; hard, fractured tuffs with lime and silica coats in fractures.

Type location: Elko County, Nevada; approximately 31 miles north of Wells about 6.5 miles northwest of Wilkins and 2 miles west of U.S. Hwy 93 in an unsectionized area of T. 42 N., R. 63 E.; (41 degrees, 30 minutes, 09 seconds north latitude and 114 degrees, 47 minutes, 54 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist late fall through spring, dry mid-July through October.
Soil temperature: 47 to 52 degrees F.
Depth to bedrock: 7 to 14 inches.
Control section:
Clay content--18 to 25 percent.
Reaction--Slightly alkaline or moderately alkaline.
Calcium carbonate equivalent--5 to 35 percent.
Other features--Commonly has silica and lime pan fragments covering up to 75 percent of the surface area.
Rock fragments--40 to 75 percent, mainly pebbles.

A horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bk horizons:
Hue--2.5Y or 10YR.
Value--6 through 8 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Very gravelly loam, extremely gravelly loam, very gravelly sandy loam.
Lime coats--None to common on undersides of pebbles.

Izod Series

The Izod series consists of very shallow and shallow, somewhat excessively drained soils that formed in residuum and colluvium derived from limestone and dolomite. Izod soils are on hills. Slopes are 15 to 50 percent. The mean annual precipitation is about 9 inches, and the mean annual temperature is about 46 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

Typical pedon: Izod very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 961. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with 50 percent pebbles.

A--0 to 2 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; moderate thick and very thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, few medium, and coarse roots; many very fine and fine vesicular, few very fine and fine tubular pores; 20 percent fine subangular blocky rock structure; 50 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1--2 to 5 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, few medium, and coarse roots; few very fine tubular pores; 20 percent subangular blocky rock structure; 50 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C2--5 to 10 inches; pale brown (10YR 6/3) very gravelly loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, few medium, and coarse roots; few very fine tubular pores; 20

percent subangular blocky rock structure; 50 percent pebbles and 5 percent cobbles; up to 50 percent of undersides of rock fragments have thin lime pendants; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
R--10 inches; fractured limestone.

Type location: Elko County, Nevada; approximately 23 miles southwest of Jackpot in the O'Neil Basin; about 2,000 feet north and 2,000 feet east of the southwest corner of section 25, T. 44 N., R. 61 E.; (41 degrees, 40 minutes, 32 seconds north latitude and 115 degrees, 01 minutes, 20 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist late fall through early spring, dry June through October.
Soil temperature: 47 to 50 degrees F.
Depth to bedrock: 6 to 14 inches.
Control section:
Clay content--18 to 25 percent.
Reaction--Slightly alkaline or moderately alkaline.
Calcium carbonate equivalent--50 to 60 percent.
Other features--Commonly has silica and lime laminae covering up to 75 percent of the bedrock surface area.
Rock fragments--40 to 75 percent, mainly pebbles.

A horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.
Effervescence--Strongly effervescent or violently effervescent.

C horizons:
Value--6 through 8 dry, 4 or 5 moist.
Chroma--2 through 4.
Structure--Weak or moderate subangular blocky or the horizon is massive.
Texture--Very gravelly loam, very gravelly silt loam, extremely gravelly silt loam.

Jackpot Series

The Jackpot series consists of shallow, well drained soils that formed in residuum and colluvium derived from tuffaceous rocks. Jackpot soils are on pediments, and hills. Slopes are 4 to 15 percent. Mean annual precipitation is about 9 inches and mean annual temperature is about 47 degrees F.

Taxonomic class: Ashy, nonacid, mesic, shallow Xeric Torriorthents

Typical pedon: Jackpot sandy loam, 4 to 15 percent slopes, is located in an area of map unit 138. (Colors are for dry soil unless otherwise noted.)

A--0 to 4 inches; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 10 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.
Bw--4 to 11 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak moderate subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 5 percent pebbles; slightly alkaline (pH 7.8); abrupt wavy boundary.
Cr-11 inches; soft ashy tuff.

Type location: Elko County, Nevada; approximately 10 miles south of Jackpot; about 1,500 feet west and 2,000 feet north of the southeast corner of section 28, T. 46 N., R. 64 E.; (41 degrees, 50 minutes, 31 seconds north latitude and 114 degrees, 43 minutes, 11 seconds west longitude.)

Range in Characteristics:

Soil moisture: Dry from June through October, but are moist in winter and spring.
Soil temperature: 47 to 50 degrees F.
Depth to bedrock: 10 to 20 inches.
Control section:
Percent clay--5 to 10 percent.
Volcanic ash--75 to 90 percent.
Reaction--Neutral or slightly alkaline.
Rock fragments--0 to 15 percent.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.

Bw horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.

Jericho Series

The Jericho series consists of shallow to a indurated duripan, well drained soils that formed in alluvium derived from mixed rocks. Jericho soils are on fan remnants. Slopes are 2 to 15 percent. Mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic, shallow Xerollic Durorthids

Typical pedon: Jericho gravelly sandy loam, 2 to 8 percent slopes, is located in an area of map unit 764. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles.

A--0 to 4 inches; light brownish gray (10YR 6/2) gravelly sandy loam, brown (10YR 5/3) moist; strong thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine, fine, and few medium vesicular pores; 20 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bw--4 to 7 inches pale brown (10YR 6/3) gravelly fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine and medium roots; many fine and few medium interstitial pores; thin lime coats on undersides of pebbles; 25 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bqk--7 to to 17 inches; very pale brown (10YR 7/3) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine and fine interstitial pores; 30 percent pebbles and 10 percent cobbles; 10 percent discontinuous strong silica and lime cementation; thin lime coats on undersides of rock fragments; violently effervescent; strongly alkaline (pH 9.0); abrupt wavy boundary.

Bqkm--17 to 31 inches; white (10YR 8/1) indurated duripan, very pale brown(10YR 7/3) moist; massive; very rigid; continuous 2 to 5 millimeter thick horizontal silica laminae at upper surface and in horizontal bands throughout horizon; violently effervescent; abrupt wavy boundary.

2Cqk--31 to 60 inches; very pale brown (10YR 7/3) gravelly sandy loam, brown (10YR 5/3) moist; massive; soft, very friable; nonsticky and nonplastic; many very fine interstitial pores; 25 percent discontinuous strong silica and lime cementation; thin lime coats on undersides of pebbles; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.8).

Type location: Elko County, Nevada; approximately 10 miles southeast of Montello; about 500 feet west and 500 feet north of the southeast corner of section 13, T. 38 N., R. 69 E.; (41 degrees, 10 minutes, 10 seconds north latitude and 114 degrees, 06 minutes, 08 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from late June through late October.
Soil temperature: 48 to 52 degrees F.
A & Bw horizons thickness: 5 to 10 inches.
Depth to indurated duripan: 14 to 20 inches.
Control section:
Clay content--10 to 18 percent.
Rock fragments--35 to 50 percent, mainly pebbles but may also have some cobbles and stones. About 1/4 to 3/4 of rock fragments are duripan fragments.
Reaction--Moderately alkaline or strongly alkaline.

A horizon:
Value--5 or 6 dry, 3 through 5 moist.
Chroma--2 or 3. (when mixed, the color in the upper 7 inches averages a value lighter than 3.5 when moist and 5.5 when dry, and chroma greater than 3.5 when moist.

Bw horizon:
Value--5 through 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bqk or Bk horizon:
Value--6 through 8 dry. 5 through 7 moist.
Chroma--2 through 4.

Bqkm horizon:
Value--7 or 8 dry, 6 or 7 moist.
Chroma--1 through 3. It contains a continuous laminaer cap. It is indurated by silica and lime cementation with an average lateral distance between fractures of less than 4 inches.

Kawich Series

The Kawich series consists of deep and very deep, excessively drained soils that formed in eolian sand. Kawich soils are on stabilized dunes and sand sheets. Slopes are 2 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 53 degrees F.

Taxonomic class: Mixed, mesic Typic Torripsamments

Typical pedon: Kawich fine sand, 8 to 30 percent slopes, is located in an area of map unit 2060. (Colors are for dry soil unless otherwise noted.)

A--0 to 4 inches; light brownish gray (10YR 6/2) fine sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; many very fine, fine, and few medium roots; many very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

C1--4 to 11 inches; light brownish gray (10YR 6/2) fine sand, dark yellowish brown (10YR 4/4) moist; massive parting to single grain; soft, very friable, nonsticky and nonplastic; common very fine, fine, few medium, and coarse roots; many very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

C2--11 to 43 inches; light brownish gray (10YR 6/2) fine sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; common very fine, fine, medium and coarse roots; many very fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); gradual wavy boundary.

C3--43 to 60 inches; light brownish gray (10YR 6/2) fine sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 2 miles south of Dake Reservoir; about 2,250 feet west and 1,150 feet south of the northeast corner of section 30, T. 40 N., R. 70 E.; (41 degrees, 19 minutes, 32 seconds north latitude and 114 degrees, 05 minutes, 16 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring, dry late May through early November.
Soil temperature: 54 to 59 degrees F.
Depth to unconformable playa: 40 to over 120 inches.
Effervescence: Slightly effervescent to violently effervescent.
Soil reaction: Moderately alkaline to very strongly alkaline.
Control section:
Texture--Averages fine sand, but may contain strata of sand or loamy fine sand.
Color of soil profile--Hue--10YR or 7.5YR. Value--5 through 8 dry; 4 through 6 moist. Chroma--2 through 4.
Other features--Contains significant amounts of pyroclastic material.

Kelk Series

The Kelk series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. The Kelk soils are on inset fans, fan skirts and stream terraces. Slopes are 0 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is 48 degrees F.

Taxonomic class: Fine-silty, mixed, mesic Durixerollic Camborthids

Typical pedon: Kelk silt loam, rarely flooded, 0 to 2 percent slopes, is located in an area of map unit 430. (Colors are for dry soil unless otherwise noted.)

A1--0 to 6 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; weak very thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and

few fine roots; few very fine interstitial pores; neutral (pH 7.0); abrupt smooth boundary

Bw--6 to 12 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine interstitial pores; moderately alkaline (pH 8.0); clear smooth boundary.

Bqk1--12 to 28 inches; light yellowish brown (10YR 6/4) silt loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; very hard, firm, and brittle, slightly sticky and slightly plastic; many very fine tubular and interstitial pores; 40 percent 5 to 20 millimeter, hard, firm durinodes; continuous brittle matrix; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bqk2--28 to 38 inches; pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few every fine roots; common very fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk3--38 to 50 inches; light yellowish brown (10YR 6/4) silt loam, dark yellowish brown (10YR 4/4) moist; massive; very hard, firm, nonsticky and nonplastic; common very fine interstitial pores; 40 percent 5 to 20 millimeter, hard, firm durinodes; continuous brittle matrix; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk4--50 to 63 inches; light yellowish brown (10YR 6/4) silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine and fine tubular pores; 20 percent discontinuous brittle matrix; slightly effervescent; strongly alkaline (pH 8.8).

Type location: Elko County, Nevada; approximately 10 miles northwest of Wells; about 1,500 feet east of the northwest corner of section 3, T. 38 N., R. 61 E.; (41 degrees, 12 minutes, 58 seconds north latitude and 115 degrees, 04 minutes, 28 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from early June through October.

Soil temperature: 47 to 52 degrees F.

Depth to base of Bw horizon: 12 to 18 inches.

Depth to continuous weak brittle matrix: 12 to 35 inches.

Depth to carbonates: 12 to 35 inches.

Control section:

Clay content--18 to 25 percent.

Other features--These soils are normally slightly or moderately salt affected below 24 to 48 inches.

A horizon:

Hue--10YR or 2.5Y.

Value--5 or 6 dry.

Chroma--2 or 3.

Reaction--Neutral to moderately alkaline.

Effervescence--Noneffervescent or slightly effervescent.

Bw horizon:

Value--6 or 7 dry, 3 or 4 moist.

Chroma--2 or 3.

Structure--Subangular blocky or prismatic or it is massive.

Reaction--Neutral to moderately alkaline, it is strongly alkaline when affected by salts and sodium.

Effervescence--Noneffervescent or slightly effervescent.

Other features--There are 10 to 20 percent weak durinodes near the lower horizon boundary in some pedons.

Bq and Bqk horizons:

Value--6 through 8 dry, and 3 through 6 moist.

Chroma--2 through 4.

Texture--Dominantly silt loam with thin strata of silty clay loam common in some pedons below 30 inches.

Reaction--Neutral to strongly alkaline, increasing with depth.

Effervescence--Slightly effervescent to violently effervescent.

Cementation--Subhorizons not continuously silica cemented contain 30 to 90 percent durinodes or are 20 to 50 percent discontinuous weakly silica cemented.

Other features--Some pedons lack relict mottles in the lower part of the Bqk horizons. Some pedons have lenses of 5 to 15 percent pebbles in some Bqk subhorizon or extremely gravelly substrata below 42 inches. Some pedons have silty clay loam 2Bk horizons below 39 inches.

Keman Series

The Keman series consists of very deep, well drained soils that formed in colluvium derived from pyroclastic and volcanic rocks. Keman soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 20 inches, and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed Argic Pachic Cryoborolls

Typical pedon: Keman gravelly loam, 4 to 15 percent slopes, is located in area of map unit 747. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles and 2 percent stones.

A--0 to 5 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 20 percent pebbles; slightly acid (pH 6.4); clear smooth boundary.

AB--5 to 15 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; many very fine tubular pores; 30 percent pebbles; slightly acid (pH 6.5); clear wavy boundary.

Bt1--15 to 31 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular pores; common thin clay films on faces of peds, lining pores and bridging mineral grains; 40 percent pebbles; slightly acid (pH 6.5); clear wavy boundary.

Bt2--31 to 38 inches; dark yellowish brown (10YR 4/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak coarse subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; many thin clay films on faces of peds, lining pores and bridging mineral grains; 50 percent pebbles and 5 percent cobbles; slightly acid (pH 6.5)); clear wavy boundary.

Bt3--38 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; many very fine and common fine tubular pores; many thin and moderately thick clay films on faces of peds, lining pores and bridging mineral grains; 55 percent pebbles and 10 percent cobbles; slightly acid (pH 6.5)

Type location: Elko County, Nevada; about 500 feet east and 750 feet north of the southeast corner of section 2, T. 47 N., R. 62 E.; (41 degrees, 59 minutes, 10 seconds north latitude and 114 degrees, 55 minutes, 40 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry late July through September. Moist in winter and spring.
Soil temperature: 39 to 42 degrees F.
Average summer soil temperature: 55 to 58 degrees F.
Mollic epipedon thickness: 30 to 50 inches.
Base saturation in the upper 40 inches: 50 to 70 percent.
Control section:
Clay content--18 to 24 percent.
Rock fragments--40 to 70 percent.

A horizon:
Value--3 or 4 dry.
Chroma--1 through 3.

Bt1 horizon:
Value--3 through 5 dry, 2 or 3 moist.
Chroma--1 through 3.
Rock fragments--40 to 70 percent, 0 to 10 percent cobbles.
Clay films--Few or common on faces of peds and in pores.

Bt2 horizon:
Value--4 through 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Very gravelly loam or extremely gravelly clay loam.
Rock fragments--40 to 65 percent.

Clay films--Few to many thin or moderately thick on faces of peds and in pores.

Kleckner Series

The Kleckner series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks. Kleckner soils are on fan remnants and hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Aridic Argixerolls

Typical pedon: Kleckner silt loam, 2 to 8 percent slopes, is located in an area of map unit 3100. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A1--0 to 2 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine interstitial pores; 10 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

A2--2 to 7 inches; grayish brown (10YR 5/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and medium roots; common very fine and fine interstitial pores; 5 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt1--7 to 11 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 3/3) moist; weak medium prismatic structure parting to moderate fine angular blocky; hard, friable, moderately sticky and moderately plastic; common very fine and medium roots; common very fine and fine interstitial pores; few thin clay films on faces of peds; 15 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

2Bt2--11 to 19 inches; brown (10YR 5/3) very cobbly clay, dark brown (10YR 4/3) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine and medium exped roots; few very fine tubular pores; continuous pressure faces; 10 percent pebbles and 25 percent cobbles; neutral (pH 7.0); clear smooth boundary.

2Bt3--19 to 33 inches; yellowish brown (10YR 5/4) very cobbly clay, dark yellowish brown (10YR 4/4) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine and medium exped roots; few very fine tubular pores; continuous pressure faces; 10 percent pebbles, 25 percent cobbles and 5 percent stones; neutral (pH 7.2); gradual wavy boundary.

2Bt4--33 to 42 inches; yellowish brown (10YR 5/4) very cobbly clay, dark yellowish brown (10YR 4/4) moist; weak medium angular blocky structure; hard, firm, very sticky and very plastic; few very fine and medium exped roots; common very fine interstitial pores; common moderately thick clay films on faces of peds; 20 percent pebbles, 25 percent cobbles and 2 percent stones; slightly alkaline (pH 7.6); clear wavy boundary.

3Bqk--42 to 60 inches; very pale brown (10YR 7/4) extremely gravelly sandy loam, yellowish brown (10YR 5/6) moist; massive; hard, firm, nonsticky and nonplastic; thin lime coats on undersides of rock fragments; many large segregated lime seams; 50 percent pebbles and 10 percent cobbles; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada; approximately 13 miles east of Wells near the base of Wells Peak; about 1,900 feet west and 1,750 feet south of the assumed northeast corner of section 22, T. 38 N., R. 63 E.; (41 degrees, 09 minutes, 57 seconds north latitude and 114 degrees, 50 minutes, 09 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry early July through October.
Soil temperature: 44 to 47 degrees F.
Thickness of mollic epipedon: 10 to 16 inches. It includes the upper part of the argillic horizon.
Depth to Bq horizon: 40 to 60 inches.
Control section:
Clay content--35 to 50 percent.
Rock fragments--35 to 60 percent; mainly pebbles or cobbles.

A horizons:
Value--2 or 3 moist.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bt horizons:
Hue--7.5YR or 10YR.
Value--5 through 7 dry, 3 through 6 moist. Darker values are common only in the upper subhorizons.
Chroma--3 through 6.
Texture--Very cobbly clay, very cobbly clay loam or very gravelly clay in the upper part with thin subhorizons that are gravelly clay, and gravelly clay loam, very gravelly clay or very cobbly clay in the lower part. Loam is common in some pedons at depths below 35 inches.
Reaction--Neutral or slightly alkaline.

Bq horizon:
Cementation--Contains 20 to 40 percent durinodes or has a continuous brittle matrix.
Reaction--Slightly alkaline or moderately alkaline.
Other features--Some pedons have lime in the Bq subhorizons.

Kram Series

The Kram series consists of very shallow and shallow somewhat excessively drained soils formed in residuum derived from limestone and dolomite. These soils are on hills and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Torriorthents

Typical pedon: Kram very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 3012. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles and 5 percent cobbles.

A--0 to 3 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; common very fine and fine vesicular and tubular pores; 45 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1--3 to 6 inches; pale brown (10YR 6/3) very gravelly loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine and medium roots; common very fine and fine tubular pores; common thin to moderately thick lime pendants on the undersides of rock fragments; 45 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C2--6 to 9 inches; pale brown (10YR 6/3) very gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, medium, and few coarse roots; few very fine tubular pores; many moderately thick to thick lime pendants on undersides of rock fragments; 55 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R--9 inches; highly fractured, limestone with few very fine to coarse roots in fractures.

Type location: Elko County, Nevada; approximately 19 miles north of Montello; about 2,900 north of the southwest corner of the Crittenden Reservoir earthen dam; (41 degrees, 31 minutes, 57 seconds north latitude and 114 degrees, 10 minutes, 30 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry mid June through October.
Soil temperature: 49 to 52 degrees F.
Depth to bedrock: 8 to 14 inches.
Control section:
Clay content--8 to 18 percent.
Rock fragments--40 to 50 percent pebbles; 5 to 10 percent cobbles andReaction--Moderately alkaline or strongly alkaline. Calcium carbonate equivalent of whole soil (less than 20 millimeters)--40 to 50 percent stones, when averaged.

A horizon:
Value--4 through 6 dry, 3 or 4 moist.

Chroma--2 or 3.
Rock fragments--35 to 45 percent pebbles, 5 to 10 percent cobbles and stones.
Effervescence--Slightly effervescent to violently effervescent.

C horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry; 3 through 5 moist.
Chroma--2 through 4.
Texture--Very gravelly very fine sandy loam or very gravelly loam.
Rock fragments--45 to 55 percent pebbles, 5 to 10 percent cobbles and stones.
Effervescence--Strongly effervescent or violently effervescent.

Kzin Series

The Kzin series consists of very shallow and shallow well drained soils that formed in residuum derived from sedimentary rocks. The Kzin soils are on hills, pediments, and lower parts of mountains. Slopes are 8 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Loamy-skeletal, mixed (calcareous), mesic shallow Xeric Torriorthents

Typical pedon: Kzin very gravelly loam, 8 to 30 percent slopes, is located in an area of map unit 1060. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 75 percent pebbles and 2 percent with stones.

A--0 to 3 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; thin lime coats on rock fragments; 35 percent pebbles, 2 percent cobbles, and 2 percent stones, violently effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.
Bk--3 to 8 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; common very fine and few fine interstitial pores; thin lime coats on rock fragments; common thin lime pendants on undersides of rock fragments; 45 percent pebbles and 5 percent cobbles; violently effervescent, strongly alkaline (pH 8.5), clear wavy boundary.
Cr--8 to 20 inches; light gray (10YR 7/2) soft fractured pudding stone with approximately 30 percent pebbles of less than 1 inch in diameter in the matrix, brown (10YR 5/3) moist; rock structure; few very fine, fine medium and coarse roots in fractures; thin lime coats along fractures.

Type location: Elko County, Nevada; approximately 8 1/2 miles southeast of Montello, about 1,500 feet south and 2,815 feet west of the northeast corner of section 4 T. 38 N., and R. 70 E.; (41 degrees, 12 minutes, 32 seconds north latitude and 114 degrees, 03 minutes, 05 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry mid-June through late October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 4 to 12 inches.
Control section:
Percent clay--15 to 25 percent.
Reaction--Moderately alkaline or strongly alkaline.
Calcium carbonate equivalent--15 to 30 percent.
Other features--Eroded phases are recognized.
Rock fragments--35 to 50 percent, mainly pebbles.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.

Bk horizon:
Value--5 or 6 dry, 4 or 5 moist.
Chroma--2 or 3.
Texture--Very gravelly loam, very gravelly sandy loam.
Structure--Subangular blocky or is massive.

Lerrow Series

The Lerrow series consists of moderately deep, well drained soils that formed in residuum and

colluvium derived from mixed rocks. Lerrow soils are on hills. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Aridic Argixerolls

Typical pedon: Lerrow gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 060. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 30 percent pebbles.

A1--0 to 3 inches; grayish brown (10YR 5/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; few very fine interstitial pores; 25 percent pebbles; neutral (pH 6.8); clear smooth boundary.

A2--3 to 10 inches; grayish brown (10YR 5/2) 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, few fine, and medium roots; many very fine interstitial pores; 25 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt1--10 to 16 inches; brown (10YR 5/3) gravelly clay loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few fine and medium roots; many very fine tubular pores; common thin clay films on faces of peds and lining pores; 30 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

Bt2--16 to 24 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 4/3) moist; moderate medium prismatic structure; very hard, firm, very sticky and very plastic; common very fine and few fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 20 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.8); clear smooth boundary.

2Cr--24 to 40 inches; saprolitic tuff.

Type location: Elko County, Nevada approximately 9 miles north of Wells about 2,500 feet west of the northeast corner of section 28, T. 39 N., R. 62 E.; (41 degrees, 14 minutes, 02 seconds north latitude and 114 degrees, 58 minutes, 19 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist late fall through spring, dry late June through October.
Soil temperature: 45 to 47 degrees F.
Mollic epipedon thickness: 10 to 17 inches, includes the upper argillic horizon.
Depth to paralithic contact: 20 to 40 inches.
Control section:
Clay content--35 to 50 percent.
Reaction--Neutral to slightly alkaline increasing with depth.
Rock fragments--15 to 35 percent, mainly cobbles and pebbles.

A horizons:
Value--5 or 6 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt1 horizon:
Chroma--2 or 3.
Texture--Clay loam or gravelly clay loam.
Clay content--30 to 40 percent
Rock fragments--10 to 35 percent, mainly pebbles.
Structure--Weak or moderate subangular blocky.

Bt2 horizons:
Chroma--3 or 4 moist.
Clay content--40 to 55 percent.
Texture--Clay, gravelly clay or cobbly clay.
Rock fragments--10 to 20 percent pebbles, 0 to 5 percent stones and 5 to 15 percent cobbles.
Structure--Weak to strong, fine to coarse prismatic.

Cr horizon:
Effervescence--Noneffervescent to slightly effervescent.

Lerrow Variant

Lerrow variant consists of very deep, well drained soils formed in alluvium derived from mixed rocks. Lerrow variant soils are on fan remnants. Slopes range from 4 to 15 percent. Mean annual

precipitation is about 12 inches. Mean annual temperature is about 43 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Calcic Pachic Argixerolls

Typical pedon: Lerrow variant gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 3080. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A--0 to 4 inches; very dark grayish brown (10YR 3/2) gravelly loam, black (10YR 2/1) moist; moderate thin platy structure parting to strong fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium inped roots; many very fine interstitial pores; 15 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1--4 to 15 inches; dark grayish brown (10YR 4/2) gravelly clay, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure parting to strong fine granular; slightly hard, friable, very sticky and very plastic; many very fine, fine, medium and coarse inped roots; many very fine and few fine tubular pores; few thin clay films on faces of peds; 20 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2--15 to 22 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 3/3) moist; moderate coarse angular blocky structure; very hard, firm, very sticky and very plastic; common very fine and fine, few medium and coarse exped roots; many very fine and few fine tubular pores; many thin clay films on faces of peds and lining pores; 30 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt3--22 to 27 inches; yellowish brown (10YR 5/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate coarse prismatic structure; very hard, firm, very sticky and very plastic; few very fine, fine, and medium exped roots; many very fine and few fine tubular pores; many pressure faces; few moderately thick clay films lining pores; 30 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

Btk1--27 to 31 inches; very pale brown (10YR 7/3) gravelly clay, brown (10YR 5/3) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, friable, very sticky and very plastic; few very fine, fine, and medium inped roots; many very fine and few fine tubular pores; few stress surfaces; common fine rounded lime soft masses with lime coats on undersides of pebbles; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Btk2--31 to 51 inches; light yellowish brown (2.5Y 6/4) gravelly clay, light olive brown (2.5Y 5/4) moist; weak medium subangular blocky structure; hard, friable, very sticky and very plastic; few very fine, fine and medium inped roots; many very fine and few fine tubular pores; few stress surfaces; common fine, irregular soft lime filaments and many medium rounded lime soft masses with lime coats on undersides of pebbles; 30 percent pebbles; strongly effervescent in lime seams; moderately alkaline (pH 8.2); gradual wavy boundary.

2Bk--51 to 61 inches; light brownish gray (2.5Y 6/2) extremely gravelly sandy loam, light yellowish brown (2.5Y 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; many medium rounded lime soft masses and lime filaments, common lime coats on rock fragments; 55 percent pebbles, 10 percent cobbles and 5 percent stones; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 28 miles north of Wells; about 2,000 feet east and 750 feet south of the northwest corner of section 34, T. 42 N., R. 62 E.; (41 degrees, 29 minutes, 29 seconds north latitude and 114 degrees, 56 minutes, 37 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid-July to October.
Soil temperature: 44 to 46 degrees F.
Mollic epipedon thickness: 20 to 25 inches, includes the upper part of the argillic horizon.
Depth to argillic horizon: 2 to 5 inches.
Depth to calcic horizon: 24 to 30 inches.
Control section:
Clay content--45 to 55 percent.
Rock fragments--5 to 30 percent, mainly pebbles.

A horizon:
Value--3 or 4 dry, 2 or 3 moist.
Chroma--1 through 3.
Structure--Platy, granular or subangular blocky.

Bt horizons:
Value--4 or 5 dry, 3 or 4 moist.
Chroma--2 through 4.
Textures--Gravelly clay or clay.
Structure--Angular blocky, subangular blocky or prismatic.

Btk horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Calcium carbonate equivalent--15 to 25 percent.
Textures--Gravelly clay or clay.

Bk horizon:
Value--6 or 7 dry, 4 through 6 moist.
Calcium carbonate equivalent--20 to 40 percent.

Loncan Series

The Loncan series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks. Loncan soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Aridic Haploxerolls

Typical pedon: Loncan very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 490. (Colors are for dry soil unless otherwise noted.)

A1--0 to 7 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium roots; common very fine and fine tubular pores; 35 percent pebbles; neutral (pH 7.2); clear wavy boundary.

A2--7 to 16 inches; brown (10YR 5/3) very 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 few fine roots; common medium and fine tubular pores; 35 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear wavy boundary.

C1--16 to 29 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common fine and medium tubular pores; 45 percent pebbles and 5 percent cobbles; neutral (pH 7.3); clear smooth boundary.

C2--29 to 37 inches; pale brown (10YR 6/3) very gravelly sandy clay loam, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; common fine tubular pores; 45 percent pebbles and 10 percent cobbles; neutral (pH 7.3); abrupt wavy boundary.

R--37 inches; hard tuff bedrock with thin matt of roots on surface.

Type location: Elko County, Nevada; approximately 19 miles northwest of Wells in an unsectionized area; about 1,400 feet west and 2,750 feet south of the southeast corner of section 32, T. 41 N., R. 61 E.; (41 degrees, 23 minutes, 07 seconds north latitude and 115 degrees, 05 minutes, 30 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring and dry late June through mid-October.
Soil temperature: 42 to 47 degrees F.
Mollic epipedon thickness: 10 to 17 inches.
Depth to bedrock: 21 to 38 inches.
Control section:
Clay content--18 to 27 percent.
Rock fragments--Averages 50 to 70 percent pebbles and cobbles with very few stones.

A horizons:
Value--4 or 5 dry.
Chroma--2 or 3.

C horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Very gravelly loam, extremely cobbly loam, very gravelly sandy clay loam, or extremely gravelly loam.
Rock fragments--40 to 70 percent pebbles and cobbles.

Loomis Series

The Loomis series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from mixed rocks. The Loomis soils are on hills. Slopes are 4 to 30 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, mesic Lithic Xerollic Haplargids

Typical pedon: Loomis very cobbly loam, 4 to 15 percent slopes, is located in an area of map unit 790. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles, 15 percent cobbles, and 5 percent stones.

A--0 to 1 inch; pale brown (10YR 6/3) very cobbly loam, brown (10YR 4/3) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine vesicular pores; slightly effervescent; common lime pendants on undersides of rock fragments; 25 percent pebbles, 25 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1--1 to 5 inches; brown (10YR 5/3) very cobbly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, firm, very sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; common lime pendants on underside of rock fragments; few thin clay films on faces of peds and lining pores; 20 percent pebbles, 20 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2--5 to 9 inches; brown (10YR 5/3) very cobbly clay, brown (10YR 4/3) moist; moderate medium angular blocky structure; slightly hard, firm, very sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; common lime pendants on undersides of rock fragments; few thin clay films on faces of peds and lining pores; 20 percent pebbles, 20 percent cobbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

R--9 inches; highly fractured basalt bedrock.

Type location: Elko County, Nevada; approximately 10 miles southwest of Contact, about 4,000 feet west of the northeast corner of section 32, T. 44 N., R. 63 E.; (41 degrees, 39 minutes, 51 seconds north latitude and 114 degrees, 52 minutes, 20 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry from June through October.
Soil temperature: 47 to 52 degrees F.
Depth to bedrock: 8 to 14 inches.
Control section:
Clay content--Averages 35 to 55 percent.
Reaction--Neutral or slightly alkaline.
Rock fragments--35 to 75 percent. Up to 40 percent are cobbles.

A horizon:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 or 3.

Bt horizons:
Value--5 or 6 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Very cobbly or extremely cobbly clay or clay loam.
Clay content--Averages 35 to 55 percent.
Rock fragments--35 to 75 percent with up to 40 percent cobbles.
Structure--Subangular blocky or angular blocky, weak to strong prismatic.
Consistence--Soft to very hard dry, very friable to firm moist, and moderately sticky or very sticky and moderately plastic or very plastic wet.

Loray Series

The Loray series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Loray soils are on beach plains, spits, and fan skirts. Slopes are 2 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Sandy-skeletal, mixed, mesic Typic Calciorthids

Typical pedon: Loray gravelly loam, 2 to 4 percent slopes, is located in an area of map unit 1070. (Colors are for dry soil unless otherwise noted.)

The soil surface is partially covered with 50 percent pebbles.

A1--0 to 2 inches; light gray (10YR 7/2) gravelly loam, brown (10YR 5/3) moist; moderate thick platy structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; many very fine and fine interstitial pores; 25 percent pebbles; strongly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2--2 to 6 inches; light gray (10YR 7/2) loam, brown (10YR 5/3) moist; strong very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, few fine, and medium roots; common very fine interstitial pores; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bk1--6 to 12 inches; light gray (10YR 7/2) gravelly sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; common very fine and few fine interstitial pores; common fine filaments and soft masses of lime; common thin lime coats on undersides of pebbles; 25 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

2Bk2--12 to 18 inches; light gray (10YR 7/2) extremely gravelly loamy sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine intersitital pores; 10 percent strong lime cementation; many thick lime coats on undersides of pebbles; common soft masses of lime; 70 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.

2Bk3--18 to 23 inches; white (10YR 8/2) extremely gravelly loamy fine sand, pale brown (10YR 6/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; many thick lime coats on undersides of pebbles; common soft masses of lime; 60 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

2Ck1--23 to 47 inches; white (10YR 8/2) stratified extremely gravelly sand and extremely gravelly coarse sand, pale brown (10YR 6/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; thin lime coats on undersides of rock fragments; 70 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

2Ck2--47 to 61 inches; light gray (10YR 7/2) extremely gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; thin lime coats on undersides of rock fragments; 65 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 3 miles southwest of Montello; about 500 feet south and 2,100 feet west of the northeast corner of section 36 T. 39 N., R. 68 E.; (41 degrees, 13 minutes, 48 seconds north latitude and 114 degrees, 13 minutes, 30 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry late May through early November.
Soil temperature: 53 to 59 degrees F.
Depth to calcic horizon: 4 to 18 inches.
Control section:
Clay content--Averages 0 to 8 percent.
Reaction--Moderately alkaline to strongly alkaline
Calcium carbonate equivalent--5 to 20 percent.
Soft powdery lime--5 to 20 percent lime filaments and masses.
Rock fragments--Averages 60 to 80 percent mainly pebbles with 0 to 10 percent cobbles.

A horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bk horizon:
Value--6 through 8 dry; 4 through 6 moist.
Texture--Loamy fine sand, sandy loam, fine sandy loam or loam.
Clay content--5 to 20 percent.
Rock fragments--5 to 35 percent, mainly pebbles.

2Bk horizons:
Value--6 through 8 dry, 4 through 6 moist.
Chroma--2 or 3.

Textures--Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand.
Clay content--0 to 8 percent.
Rock fragments--60 to 80 percent, mainly pebbles.
Structure--Massive or single grain.
Lime cementation--Up to 20 percent weak or strong discontinuous lime cementation is common in any subhorizon.

2Ck horizons:
Value--6 through 8 dry; 4 through 6 moist.
Chroma--2 or 3.
Structure--Massive or single grain.
Consistence--Slightly hard or loose.
Calcium carbonate equivalent--5 to 10 percent.

Luap Series

The Luap series consists of moderately deep to a strongly cemented lime hardpan, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. The Luap soils are on fan skirts and spits. Slopes are 2 to 8 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic Typic Paleorthids

Typical pedon: Luap very gravelly fine sandy loam, 2 to 4 percent slopes, is located in an area of map unit 1070. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 45 percent pebbles.

A--0 to 3 inches; light gray (10YR 7/2) very gravelly fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine and few fine interstitial pores; 40 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bw--3 to 12 inches; light gray (10YR 7/2) very gravelly very fine sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, few fine, and medium roots; many very fine and few fine interstitial pores; 35 percent pebbles; violently effervescent; strongly alkaline (pH 9.0); abrupt wavy boundary.

Bk1--12 to 23 inches; very pale brown (10YR 8/4) very gravelly very fine sandy loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm, nonsticky and nonplastic; common very fine roots; many very fine and few fine interstitial pores; 50 percent discontinuous weak lime cementation; few, fine soft lime masses; 40 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

2Bk2--23 to 37 inches; variegated extremely gravelly coarse sand; single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; thin lime coats on undersides of pebbles; 70 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

3Bkm--37 to 44 inches; white (10YR 8/2) continuous strongly cemented lime hardpan, pale yellow (2.5Y 7/4) moist; massive; extremely hard, slightly rigid; 70 percent pebbles; violently effervescent; clear wavy boundary.

4Ck--44 to 61 inches; variegated extremely gravelly coarse sand; massive; hard, firm, nonsticky and nonplastic; many very fine interstitial pores; 50 percent discontinuous weak lime cementation; 80 percent pebbles; violently effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada approximately 2 miles southeast of Montello, about 250 feet east and 2,400 feet south of the northwest corner of section 22, T. 39 N., R. 69 E.; (41 degrees, 15 minutes, 03 seconds north latitude and 114 degrees, 09 minutes, 36 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in the winter and spring, dry late May through early November.
Soil temperature: 53 to 59 degrees F.
Depth to petrocalcic horizon: 20 to 40 inches.
Control section:
Clay content--8 to 18 percent.
Reaction--Moderately alkaline or strongly alkaline.
SAR--Ranges from 6 to 25 between depth of 10 inches to the petrocalcic horizon.

Rock fragments--Averages 45 to 70 percent pebbles.

A horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bw horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Very gravelly very fine sandy loam or very gravelly loam.

Bk horizons:
Value--7 or 8 dry, 6 or 7 moist.
Chroma--2 through 4.
Texture--Very gravelly very fine sandy loam, fine sandy loam, or loam with extremely gravelly coarse sand or loamy sand common in the lower subhorizons of many pedons.

McIvey Series

The McIvey series consists of very deep, well drained soils that formed in colluvium derived from mixed rocks. The McIvey soils are on hills and mountains. Slopes are 2 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Typic Argixerolls

Typical pedon: McIvey gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 040. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; weak very fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 25 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

A2--3 to 13 inches; grayish brown (10YR 5/2) gravelly loam, very dark brown (10YR 2/2) moist; strong fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and few fine tubular pores; 30 percent pebbles; neutral (pH 6.8); clear wavy boundary.

AB--13 to 18 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; many very fine and common fine tubular pores; few thin clay films lining pores; 30 percent pebbles and 5 percent cobbles; neutral (pH 6.8); clear wavy boundary.

2Bt1--18 to 23 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; many very fine and common fine tubular pores; common thin clay films on faces of peds and lining pores; 40 percent pebbles and 5 percent cobbles; slightly acid (pH 6.4); clear wavy boundary.

2Bt2--23 to 32 inches; light yellowish brown (10YR 6/4) very gravelly clay, yellowish brown (10YR 5/4) moist; strong medium angular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; many very fine and few fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 45 percent pebbles and 5 percent cobbles; slightly acid (pH 6.3); gradual wavy boundary.

2Bt3--32 to 62 inches; light yellowish brown (10YR 6/4) very gravelly clay, yellowish brown (10YR 5/4) moist; massive; very hard, firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; many moderately thick clay films lining pores; 45 percent pebbles and 5 percent cobbles; slightly acid (pH 6.3).

Type location: Elko County, Nevada; approximately 25 miles north of Wells, about 1,250 feet east and 2,000 feet north of the southwest corner of section 15, T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 30 seconds north latitude and 115 degrees, 03 minutes, 49 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in the winter and spring, dry mid-July through October.
Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 12 to 20 inches, does not include the argillic horizon.
Control section:
Clay content--35 to 50 percent.
Rock fragments--Averages 35 to 60 percent, mainly pebbles and cobbles.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 through 3.

2Bt1 horizon:
Hue--7.5YR or 10YR.
Value--3 or 4 moist.
Chroma--3 or 4.
Texture--Very gravelly clay loam or gravelly clay loam.
Clay content--30 to 40 percent.
Rock fragments--15 to 40 percent pebbles, 0 to 5 percent cobbles.
Reaction--Slightly acid or neutral.
Other features--Moist and dry colors of this horizon do not meet the requirements of a mollic epipedon.

Lower 2Bt horizons:
Hue--7.5YR or 10YR.
Value--5 or 6 dry, 4 or 5 moist.
Chroma--3 through 6.
Texture--Very gravelly clay, very cobbly clay, or extremely cobbly clay with extremely cobbly clay loam common in some subhorizons below 40 inches.
Clay content--Commonly 40 to 50 percent, but some pedons have lower subhorizons with 30 to 40 percent.
Rock fragments--35 to 50 percent pebbles, 5 to 25 percent cobbles, 0 to 15 percent stones.
Structure--Subangular blocky, angular blocky, or prismatic throughout the profile but is commonly massive in the lower subhorizons.
Reaction--Slightly acid or neutral.

Nevador Series

The Nevador series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Nevador soils are on fan remnants and fan skirts. Slopes are 0 to 15 percent. The mean annual precipitation is about 9 inches, and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine-loamy, mixed, mesic Durixerollic Haplargids

Typical pedon: Nevador loam, 4 to 15 percent slopes, is located in an area of the map unit 160. (Colors are for dry soil unless otherwise noted.)

Ap--0 to 3 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and common fine interstitial pores; neutral (pH 7.2); abrupt smooth boundary.
A--3 to 6 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine and few fine interstitial pores; neutral (pH 7.2); clear smooth boundary.
Bt1--6 to 12 inches; pale brown (10YR 6/3) loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and few fine interstitial pores, few thin clay films bridging mineral grains; 5 percent pebbles; neutral (pH 7.2); clear smooth boundary.
Bt2--12 to 24 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine interstitial pores; common thin clay films bridging mineral grains; 5 percent pebbles; neutral (pH 7.3); clear smooth boundary.
Bqk1--24 to 43 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; massive; hard, slightly sticky and nonplastic; few very fine and fine roots; common very fine interstitial pores; 50 percent 10 to 20 millimeter durinodes; few fine soft lime filaments, in a noneffervescent matrix; 5 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.
Bqk2--43 to 52 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine and fine roots; common very fine interstitial pores; 30 percent hard, 10 to 20 millimeters, durinodes in a discontinuous weakly silica cemented matrix; few fine soft lime filaments in a noneffervescent matrix; 5 percent

pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bqk3--52 to 61 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; massive; hard, friable, nonsticky and nonplastic; few fine roots; common very fine interstitial pores; 60 percent discontinuous weakly silica cemented with 10 percent, 10 to 20 millimeter, hard durinodes; few fine soft lime filaments; violently effervescent; 5 percent pebbles; slightly alkaline (pH 7.5).

Type location: Elko County, Nevada; approximately 4 miles northeast of Wells; about 200 feet south and 1,400 feet west of the northeast corner of section 25, T. 38 N., R. 62 E.; (41 degrees, 09 minutes, 22 seconds north latitude and 114 degrees, 54 minutes, 39 west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring; dry June through October.
Soil temperature: 47 to 52 degrees F.
Depth to base of the Bt horizons: 12 to 24 inches.
Depth to Bqk horizon: 18 to 37 inches.
Mineralogy: Mixed with some influence from vitric pyroclastic materials.
Control section:
Clay content--25 to 35 percent.
Effervescence--The A and Bt horizons are noncalcareous.

A horizons:
Value--5 or 6 dry, 3 or 4 moist. The average value of the upper 7 inches is greater than 5.5 dry.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bt horizons:
Hue--10YR or 7.5YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4. Chroma of 4 only when rubbed moist.
Texture--Sandy clay loam, clay loam or loam.
Structure--Weak to strong, fine through coarse prismatic, subangular blocky or angular blocky.
Reaction--Neutral to moderately alkaline.
Rock fragments--5 to 10 percent pebbles.

Bqk horizon:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 or 3.
Texture--Stratified gravelly fine sandy loam to loamy sand.
Reaction--Slightly alkaline through strongly alkaline.
Other features--20 to 70 percent durinodes with few very thin (2 millimeters thick) discontinuous and unoriented silica laminae. The durinodes are hard or very hard, firm or very firm, and include some durinodes that are extremely hard and extremely firm. Some pedons have thin strata of sand and gravel.

Nirac Series

The Nirac series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks, loess, and volcanic ash. The Nirac soils are on hills and mountains. Slopes are 8 to 75 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Aridic Calcixerolls

Typical pedon: Nirac gravelly silt loam, 15 to 50 percent slopes, is located in an area of map unit 2030. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles.

A1--0 to 4 inches; dark grayish brown (10YR 4/2) gravelly silt loam, very dark brown (10YR 2/2) moist; moderate very fine granular structure; soft, very friable, nonsticky and slightly plastic; many very fine roots; common very fine interstitial and few fine tubular pores; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.3); clear wavy boundary.

A2--4 to 10 inches; grayish brown (10YR 5/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure parting to moderate very fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and medium roots; common very fine interstitial and few fine tubular pores; thin lime coats on undersides of rock fragments; 25 percent

pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
A3--10 to 16 inches; brown (10YR 5/3) very gravelly silt loam, dark brown (10YR 3/3) moist; common fine and medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine, common fine and medium roots; common very fine interstitial and few fine tubular pores; 50 percent pebbles; thin lime coats on undersides of rock fragments; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
Bk1--16 to 21 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine roots; many very fine interstitial pores; 2 to 5 millimeter thick lime pendants on bottom of rock fragments; 50 percent pebbles; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
Bk2--21 to 26 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; common very fine interstitial pores; thin lime coats covering rock fragments with 2 to 5 millimeters thick lime pendants; common fine lime filaments; 50 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
Bk3--26 to 36 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and nonplastic; common very fine roots; many very fine interstitial pores; thin lime coats covering rock fragments with 1 to 3 millimeter thick lime pendants; 50 percent pebbles and 5 percent cobbles; strongly effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.
2R--36 inches; fractured dolomite rock.

Type location: Elko County, Nevada; approximately 10 miles northwest of Montello; about 2,500 feet west and 750 feet south of the northeast corner of section 9, T. 40 N., R. 68 E.; (41 degrees, 22 minutes, 13 seconds north latitude and 114 degrees, 17 minutes, 09 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in late fall through early summer, dry July through October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 10 to 17 inches.
Depth to bedrock: 20 to 40 inches.
Depth to calcic horizon: 10 to 17 inches.
Control section:
Clay content--15 to 25 percent.
Rock fragments--35 to 60 percent pebbles with 0 to 10 percent cobbles.
Other features--Secondary lime increases with depth.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Reaction--Slightly alkaline or moderately alkaline.

Bk horizon:
Value--6 or 7 dry, 3 through 5 moist.
Chroma--2 through 4.
Texture--Very gravelly loam or very gravelly silt loam.
Clay content--15 to 25 percent.
Rock fragments--35 to 60 percent pebbles with 0 to 10 percent cobbles.
Structure--Weak subangular blocky or it is massive.
Calcium carbonate equivalent--25 to 40 percent.
Reaction--Moderately alkaline or strongly alkaline.

Ocala Series

The Ocala series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Ocala soils are on stream terraces, flood plains, lake plains, inset fans, and drainageways. Slopes are 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous), mesic Aeric Halaquepts

Typical pedon: Ocala silt loam, 0 to 2 percent slopes is located in an area of the map unit 340. (Colors are for dry soil unless otherwise noted.)

A--0 to 3 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; moderate thick platy structure; slightly hard, friable, moderately sticky and slightly plastic; few very fine, fine and medium roots; many very fine and fine vesicular pores; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

C--3 to 8 inches; very pale brown (10YR 7/3) silty clay loam, yellowish brown (10YR 5/4) moist; weak medium platy structure; slightly hard, friable, very sticky and moderately plastic; common very fine, few fine, and medium roots; common very fine and fine tubular pores; violently effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

Cqk1--8 to 13 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; strong thin and medium platy structure; slightly hard, friable, very sticky and moderately plastic; common very fine, fine, and few medium and coarse roots; common very fine tubular pores; 20 percent, 5 to 15 millimeter durinodes; violently effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

Cqk2--13 to 23 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; common medium distinct brown (10YR 4/3) and yellowish brown (10YR 5/6) mottles, moist; strong thin and medium platy structure; hard, firm and brittle, very sticky and moderately plastic; few very fine, fine and medium roots; common very fine and fine tubular pores; many fine thread like gypsum crystals along pores and in masses; continuous brittle matrix; violently effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

Cqk3--23 to 29 inches; very pale brown (10YR 7/3) silty clay loam, light yellowish brown (10YR 6/4) moist; few medium distinct grayish brown (10YR 5/2) mottles; strong thick platy; very hard, firm, very sticky and moderately plastic; few fine roots; few very fine tubular pores; 30 percent durinodes; many thin silica coats lining pores; common fine thread like gypsum crystals; weak continuous brittle matrix; violently effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

Cqk4--29 to 40 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; few medium distinct brown (10YR 4/3) mottles; massive; hard, firm and brittle, very sticky and plastic; few fine roots; common very fine and few coarse tubular pores; 10 percent very firm durinodes; few thin discontinuous silica laminae; many thin silica coats lining pores; common fine thread like gypsum crystals; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Cqk5--40 to 46 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; few medium faint dark yellowish brown (10YR 4/4) mottles; massive; very hard, firm and brittle, very sticky and moderately plastic; common very fine and few coarse tubular pores; many fine masses and thread like gypsum crystals; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

2Cqk6--46 to 60 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; common large faint dark yellowish brown (10YR 4/4) mottles massive; hard, firm, very sticky and moderately plastic; few very fine tubular pores; 20 percent firm durinodes; common fine gypsum crystals; violently effervescent; strongly alkaline (pH 8.5).

Type location: Elko County, Nevada; approximately 8 miles south of Jackpot; about 750 feet west and 2,000 feet south of the northeast corner of section 23, T. 46 N., R. 64 E.; (41 degrees, 51 minutes, 37 seconds north latitude and 114 degrees, 40 minutes, 39 seconds west longitude.)

Range in Characteristics:

Soil moisture: These soils are usually saturated within depths of 40 inches for one month or more during most years.

Soil temperature: 50 to 54 degrees F.

Depth to weakly cemented horizon: 13 to 30 inches.

Salt and sodium: These soils are normally strongly salt and alkali affected within the surface 10 inches.

Mottles: Iron mottles occur below 12 inches.

Control section:

Clay content--18 to 35 percent.

Segregated lime--Lime concretions are normally below depths of 35 inches but are lacking in some pedons.
Cementation--More than one weakly cemented horizon is in some pedons; some pedons have horizons with 20 to 70 percent durinodes in a friable matrix above the weakly cemented horizons.
Reaction--Strongly alkaline to very strongly alkaline.
Other features--Strata or lenses of volcanic ash, up to 4 inches thick, are in most pedons, especially below 30 inches. These ash strata are usually noncalcareous and slightly alkaline.

A horizon:
Hue--10YR to 5Y.
Value--6 through 8 dry, 4 through 7 moist.
Chroma--1 through 4.

C and Cqk horizons:
Hue--10YR to 5Y.
Value--6 through 8 dry, 4 through 7 moist.
Chroma--1 through 4.
Texture--Silty clay loam or silt loam with thin strata of clay loam, loam, or silty clay in some pedons.
Structure--Platy, massive or angular block

Ocala Variant

Ocala variant consists of very deep, very poorly drained soils that formed in alluvium derived from mixed rocks. Ocala variant soils are on floodplains. Slopes are 0 to 2 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine, montmorillonitic (calcareous), mesic Typic Halaquepts

Typical pedon: Ocala variant silty clay loam, frequently flooded, 0 to 2 percent slopes, is located in an area of map unit 185. (Colors are for dry soil unless otherwise noted.)

A--0 to 5 inches; white (10YR 8/2) silty clay loam, brown (10YR 5/3) moist; few fine distinct brown (7.5YR 5/4) moist mottles; weak medium platy structure parting to moderate very thin platy; hard, firm, very sticky and moderately plastic; common very fine, fine and medium roots; common very fine interstitial pores; violently effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

C1--5 to 15 inches; white (10YR 8/2) silty clay loam, brown (10YR 5/3) moist; weak very thin platy structure; hard, firm, very sticky and moderately plastic; few very fine, common fine and medium roots; many very fine and few fine interstitial pores; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

C2--15 to 23 inches; white (10YR 8/2) silty clay loam, brown (10YR 5/3) moist; massive; hard, firm, very sticky and moderately plastic; few very fine, fine and medium roots; many very fine, fine, and medium interstitial pores; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

C3--23 to 28 inches; white (10YR 8/1) silty clay loam, grayish brown (10YR 5/2) moist; common medium distinct brown (7.5YR 5/4) moist mottles; massive; very hard, very firm, very sticky and very plastic; few very fine, fine and medium roots; many very fine, few fine interstitial and many medium tubular pores; strongly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

2Ab1--28 to 31 inches; light gray (10YR 7/1) silty clay, dark grayish brown (10YR 4/2) moist; common fine prominent dark yellowish brown (10YR 3/4) and common medium distinct black (10YR 2/1) moist mottles; massive; very hard, very firm, very sticky, and very plastic; common very fine, few fine, and medium roots; few very fine interstitial pores; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2Ab2--31 to 41 inches; light gray (10YR 7/1) silty clay, dark gray (5Y 4/1) moist; few medium prominent dark brown (10YR 3/3) moist mottles; massive; very hard, very firm, very sticky and very plastic; common very fine tubular pores; slightly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

2C--41 to 61 inches; light gray (10YR 7/1) silty clay, greenish gray (5G 5/1) moist; massive; very hard, very firm, very sticky, and very plastic; few very fine, fine, and medium roots; common very fine interstitial pores; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 8 miles northwest of Montello; about 2,300 feet west and 2,200 feet south of the northeast

corner of section 13, T. 40 N., R. 69 E.; (41 degrees, 21 minutes, and 07 seconds north latitude and 114 degrees, 06 minutes, and 27 seconds west longitude.)

Range in Characteristics:

Soil moisture: Saturated at or near the surface for at least one month during most years, mainly during the late winter and early spring. It drops to a depth of 20 to 40 inches from early spring through September.
Soil temperature: 53 to 57 degrees F.
Control section:
Percent clay--35 to 50 percent.
Texture--Silty clay loam or silty clay.
SAR--Averages greater than 13 in half or more of the upper 20 inches, decreases with depth.

A horizon:
Value--7 or 8 dry, 4 or 5 moist.
Chroma--2 or 3.
Reaction--Moderately alkaline or strongly alkaline.
Other features--Buried A horizons are common.

C horizons:
Hue--2.5Y, 5Y, 5G or 10YR.
Value--7 or 8 dry, 4 or 5 moist.
Chroma--1 or 2.
Reaction--Moderately alkaline or strongly alkaline.

Ola Series

The Ola series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from granitic rocks. Ola soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Coarse-loamy, mixed, frigid Pachic Haploxerolls

Typical pedon: Ola gravelly coarse sandy loam, 15 to 50 percent slopes, is located in an area of map unit 300. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles and 5 percent cobbles.

A1--0 to 6 inches; very dark grayish brown (10YR 3/2) gravelly coarse sandy loam, black (10YR 2/1) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine tubular and many fine interstitial pores; 15 percent pebbles; neutral (pH 6.8); clear smooth boundary.
A2--6 to 10 inches; very dark grayish brown (10YR 3/2) gravelly coarse sandy loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine tubular and common fine interstitial pores; 30 percent pebbles; neutral (pH 6.8); gradual smooth boundary.
A3--10 to 14 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine tubular and common fine interstitial pores; 25 percent pebbles; neutral (pH 6.8); clear smooth boundary.
A4--14 to 19 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine and few medium roots; many very fine tubular and common fine interstitial pores; 30 percent pebbles; neutral (pH 7.0); clear smooth boundary.
C--19 to 29 inches; brown (10YR 5/3) gravelly coarse sandy loam, dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and few medium roots; common fine tubular and many fine interstitial pores; 30 percent pebbles; neutral (pH 7.2); gradual smooth boundary.
Cr--29 to 35 inches; highly weathered granite.
R--35 inches; hard granite.

Type location: Elko County, Nevada; approximately 15 miles south of Jackpot in an unsurveyed area of the Granite Range; about 3 miles south and 375 feet east of the southwest corner of section 35, T. 45 N., R. 64 E.; (41 degrees, 41 minutes, 38 seconds north latitude and 114 degrees, 42 minutes, 06 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid July to October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 20 to 40 inches.
Depth to bedrock: 30 to 40 inches.
Depth to paralithic contact: 20 to 38 inches.
Control section:
Clay content--5 to 15 percent.
Rock fragments--15 to 35 percent.
Reaction--Slightly acid or neutral.

A horizons:
Value--3 through 5 dry, 2 or 3 moist.
Chroma--1 or 2.

C horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Gravelly coarse sandy loam, or gravelly sandy loam.
Rock fragments--15 to 30 percent pebbles.

Onkeyo Series

The Onkeyo series consists of shallow, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. The Onkeyo soils are on mountains and hills. Slopes are 4 to 50 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Calcixerolls

Typical pedon: Onkeyo very gravelly silt clay loam, 15 to 50 percent slopes, is located in an area of map unit 560. (Colors are for dry soil unless otherwise noted.) The soil is partially covered with 60 percent pebbles, 5 percent cobbles, and 2 percent stones.

A1--0 to 3 inches; brown (10YR 5/3) very gravelly silty clay loam, dark brown (10YR 3/3) moist; weak very fine granular structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine and few fine tubular pores; common thin lime coats on undersides of rock fragments; 40 percent pebbles, 5 percent cobbles; violently effervescent (4 percent calcium carbonate equivalent); slightly alkaline (pH 7.8); clear wavy boundary.
A2--3 to 8 inches; brown (10YR 5/3) very gravelly silty 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 and few fine roots; many very fine and few fine tubular pores; common thin lime coats on undersides of rock fragments; 35 percent pebbles and 10 percent cobbles; violently effervescent (6 percent calcium carbonate equivalent); slightly alkaline (pH 7.8); clear wavy boundary.
Bk--8 to 15 inches; light yellowish brown (10YR 6/4) extremely cobbly silty clay loam, yellowish brown (10YR 5/4) moist; weak medium angular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; many very fine and common fine tubular pores; common thick lime coats on undersides of rock fragments; 20 percent pebbles, 40 percent cobbles, and 5 percent stones; violently effervescent (22 percent calcium carbonate equivalent); moderately alkaline (pH 8.0); abrupt irregular boundary.
R--15 inches; hard fractured limestone.

Type location: Elko County, Nevada; approximately 24 miles north of Wells in the Snake Mountains; about 1,400 feet south and 1,500 feet west of the northeast corner of section 15, T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 49 seconds north latitude and 115 degrees, 03 minutes, 17 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist from late fall through spring, dry mid-July through October.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 7 to 10 inches.
Depth to calcic horizon: 7 to 10 inches.
Depth to bedrock: 14 to 20 inches.
Control section:
Percent clay--27 to 35 percent.
Reaction--Slightly alkaline or moderately alkaline.
Rock fragments--50 to 80 percent, mainly cobbles.

A horizons:
Value--4 or 5 dry, 3 or 4 moist.

Effervescence--Slightly effervescent to violently effervescent.
Calcium carbonate equivalent--1 to 10 percent.

Bk horizon:
Value--6 or 7 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Very cobbly silty clay loam, extremely cobbly silty clay loam.
Clay content--27 to 35 percent.
Rock fragments--50 to 80 percent, mainly cobbles.
Structure--Subangular blocky or angular blocky.
Calcium carbonate equivalent--15 to 35 percent.
Other features--Thin to thick lime coats on undersides of rock fragments.

Orovada Series

The Orovada series consists of very deep, well drained soils that formed in loess over alluvium derived from mixed rocks. The Orovada soils are on fan skirts, stream terraces, and inset fans. Slopes are 0 to 30 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Coarse-loamy, mixed, mesic Durixerollic Camborthids

Typical pedon: Orovada very fine sandy loam, 2 to 8 percent slopes, is located in an area of map unit 930. (Colors are for dry soils unless otherwise noted.

A1--0 to 3 inches; pale brown (10YR 6/3) very fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate very thin and thin platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, few fine, medium, and coarse roots; many very fine interstitial, vesicular, and few fine tubular pores; slightly alkaline (pH 7.8); clear wavy boundary.

A2--3 to 7 inches; light brownish gray (10YR 6/2) very fine sandy loam, brown (10YR 4/3) moist; moderate very thin and thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, medium and coarse roots; common very fine interstitial, few fine, and medium tubular pores; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bw--7 to 13 inches; pale brown (10YR 6/3) very fine sandy loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, medium and coarse roots; common very fine interstitial, few fine, and medium tubular pores; slightly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

Bqk1--13 to 19 inches; light gray (2.5Y 7/2) loam, light olive brown (2.5Y 5/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine, and few fine interstitial, and tubular pores; 5 percent 1/2 inch hard durinodes; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bqk2--19 to 39 inches; light gray (2.5Y 7/2) very fine sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; 25 percent 1/2 to 3 inch hard durinodes; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bqk3--39 to 65 inches; light gray (2.5Y 7/2) silt loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; common very fine and few fine interstitial pores; 25 percent 1/2 to 3 inch hard durinodes; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 17 miles north of Thousand Springs in the Knoll Creek drainage; about 1,940 feet east and 2,500 feet south of the northwest corner of section 35, T. 44 N., R. 63 E.; (41 degrees, 39 minutes, 26 seconds north latitude and 114 degrees, 48 minutes, 43 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from late June through early November.
Soil temperature: 47 to 52 degrees F.
Depth to Bq or Bqk horizon: 10 to 28 inches.
Control section:
Clay content--5 to 18 percent.

Rock fragments--0 to 15 percent, mainly pebbles.
Other features--When mixed, value of the upper 7 inches is greater than 5.5 dry and 3.5 moist.

A horizons:
Hue--10YR or 2.5Y.
Value--5 through 7 dry, 3 or 4 moist.
Chroma--2 through 4.
Reaction--Neutral through moderately alkaline.

Bw horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 3 through 5 moist.
Chroma--2 through 6.
Texture--Fine sandy loam, very fine sandy loam, loam, silt loam.
Clay content--5 to 18 percent.
Rock fragments--Averages 0 to 15 percent pebbles.
Structure--Subangular blocky, prismatic, or horizon is massive.
Reaction--Slightly alkaline or moderately alkaline.

Bq or Bqk horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 3 through 5 moist.
Chroma--2 through 6.
Texture--Fine sandy loam, very fine sandy loam, loam, silt loam.
Rock fragments--Up to 30 percent pebbles in some subhorizons of some pedons.
Reaction--Moderately alkaline through very strongly alkaline, increasing with depth.
Cementation--Contains 20 to 80 percent durinodes.
Other features--Gypsum crystals are below depths of 37 inches in some pedons.

Oupico Series

The Oupico series consists of moderately deep to a duripan, well drained that formed in alluvium derived from mixed rocks. Oupico soils are on fan remnants. Slopes are 0 to 30 percent. Mean annual precipitation is about 9 inches, and the mean annual temperature is about 47 degrees F.

Taxonomic class: Coarse-loamy, mixed, mesic Xerollic Durorthids

Typical pedon: Oupico loam, 2 to 4 percent slopes, is located in an area of map unit 691. (Colors are for dry soil unless otherwise noted.)

Ap--0 to 2 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate very thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; moderately alkaline (pH 7.9); clear smooth boundary.

A--2 to 4 inches; light brownish gray (10YR 6/2) silt loam, dark brown (10YR 4/3) moist; weak thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; moderately alkaline (pH 7.9); clear smooth boundary.

Bk--4 to 13 inches; pale brown (10YR 6/3) loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bqk--13 to 25 inches; light gray (10YR 7/2) loam, brown (10YR 5/3) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; discontinuous weakly cemented matrix; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bqkm--25 to 49 inches; white (10YR 8/2) indurated duripan with 1 to 3 millimeters laminar cap alternating with thin discontinuous strongly cemented laminae, very rigid; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Cqk1--49 to 56 inches; very pale brown (10YR 8/3) sandy loam, very pale brown (10YR 7/3) moist; massive; extremely hard, extremely firm, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; 40 percent hard durinodes; discontinuous weakly silica cemented matrix; 10 percent pebbles; strongly alkaline (pH 8.6); clear smooth boundary.

Cqk2--56 to 62 inches; white (10YR 8/2) very fine sandy loam, light gray (10YR 7/2) moist; massive; hard, firm, nonsticky and nonplastic; 30 percent hard durinodes; discontinuous weakly silica cemented matrix; strongly alkaline. (pH 8.6).

Type location: Elko County, Nevada; approximately 3 miles northeast of Wells; about 1,600 feet north and 2,700 feet west of the southeast corner of section 36, T. 38 N., R. 62 E.; (41 degrees, 07 minutes, 53 seconds north latitude and 114 degrees, 54 minutes, 56 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June through October.
Soil temperature: 47 to 51 degrees F.
Depth to duripan: 20 to 40 inches.
Depth to Bk horizon: 2 to 5 inches.
Control section:
Percent clay--8 to 18 percent.
Rock fragments--5 to 25 percent, mainly pebbles.

A horizons:
Value--6 or 7 dry.
Chroma--2 through 4.
Effervescence--Noneffervescent to slightly effervescent.
Reaction--Slightly alkaline or moderately alkaline.

Bk horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Texture--Gravelly loam, loam, sandy loam.
Carbonates--Disseminated lime, soft pockets or films.

Bqk horizon:
Hue--7.5YR or 10YR.
Value--6 through 8 dry; 5 through 7 moist.
Chroma--2 through 4.
Texture--Gravelly loam, loam, sandy loam.
Cementation--Thin coatings of silica or discontinuous weakly silica cemented layers.

Pamison Series

The Pamison series consists of very deep, moderately well drained soils that formed in alluvium derived from mixed rocks. The Pamison soils are on fan remnants. Slopes are 4 to 30 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees. F.

Taxonomic class: Loamy-skeletal, mixed, frigid Aridic Calcixerolls

Typical pedon: Pamison gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 850. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles.

A1--0 to 1 inch; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine, medium, and few coarse roots; many very fine and fine vesicular and few very fine and fine tubular pores; 30 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

A2--1 to 7 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; few fine faint yellowish brown (10YR 5/4) mottles; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine and fine tubular pores; 25 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk--7 to 10 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; few fine distinct brownish yellow (10YR 6/6) moist mottles; moderate fine 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; 25 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bkq1--10 to 13 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; few fine distinct brownish yellow (10YR 6/6) mottles; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine tubular pores; 40 percent hard and firm weak discontinuous lime and silica cementation; 30 percent pebbles; common thin lime pendants on the undersides of pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bkq2--13 to 24 inches; very pale brown (10YR 7/3) very gravelly sandy loam, brown (10YR 5/3) moist; massive; hard, firm, nonsticky and

slightly plastic; few very fine and fine roots; few very fine, fine and medium tubular pores; 50 percent very hard and very firm discontinuous strong lime and silica cementation; 10 percent brittle when wet; few fine soft masses, seams and filaments of lime; many thin to very thick lime pendants on the undersides of pebbles; 50 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

3Ckq--24 to 60 inches; very pale brown (10YR 7/3) very gravelly loamy sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; few very fine and fine tubular pores; 25 percent hard and firm discontinuous weak lime and silica cementation; few fine soft masses, seams and filaments of lime; common thin lime pendants on the undersides of pebbles; 50 percent pebbles; violently effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 30 miles north of Pequop in an unsectionized area; about 1 mile and 1,220 feet north and 2,875 feet east of the northwest corner of section 3, T. 43 N., R. 65 E.; (41 degrees, 34 minutes, 40 seconds north latitude and 114 degrees, 35 minutes, 45 seconds west longitude.)

Range in Characteristics:

Soil moisture: These soils are moist in winter and spring, dry from late June through October.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 7 to 16 inches.
Depth to calcic horizon: 7 to 20 inches.
Control section:
Clay content--Averages 8 to 15 percent.
Rock fragments--Averages 35 to 60 percent, mainly pebbles.

A horizons:
Value--5 or 6 dry, 3 or 4 moist; the upper 7 inches when mixed is darker than 5.5 dry, and 3.5 when moist.
Chroma--2 or 3.
Effervescence--None to slight.
Mottles--None to few, faint or distinct.

Bk and Bkq1 horizons:
Value--5 through 7 dry; 4 or 5 moist.
Chroma--3 or 4.
Clay content--18 to 25 percent.
Rock fragments--20 to 35 percent.
Structure--Weak or moderate subangular blocky or is massive.
Consistence--Slightly hard to very hard dry, friable to very firm moist.
Calcium carbonate equivalent--0 to 15 percent.
Effervescence--Strongly effervescent or violently effervescent.
Cementation--Weak discontinuous and is comprised dominantly of lime with some accessory silica present.
Mottles--Few or common.

2Bkq2 horizon:
Value--5 through 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Texture--Very gravelly sandy loam or extremely gravelly sandy loam.
Clay content--10 to 20 percent.
Rock fragments--45 to 70 percent, mostly pebbles.
Structure--Weak or moderate subangular blocky or is massive.
Consistence--Slightly hard to very hard dry, friable to very firm moist.
Calcium carbonate equivalent--15 to 30 percent.
Secondary carbonates--Occurs as seams, soft masses, filaments or as pendants on the undersides of pebbles.
Reaction--Moderately alkaline or strongly alkaline.
Effervescence--Strongly effervescent or violently effervescent.
Cementation--Weak discontinuous and is comprised dominantly of lime with some accessory silica present.

3Ckq horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Texture--Very gravelly loamy sand or extremely gravelly loamy sand.
Clay content--5 to 10 percent.
Rock fragments--45 to 70 percent, mostly pebbles.
Reaction--Moderately alkaline or strongly alkaline.
Calcium carbonate equivalent--5 to 15 percent.

Peeko Series

The Peeko series consists of shallow to duripan, well drained soils that formed in loess over alluvium derived from mixed rocks. Peeko soils are on fan remnants. Slopes are 2 to 30 percent. The mean annual precipitation is about 9 inches,and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Xerollic Durorthids

Typical pedon: Peeko silt loam, 2 to 8 percent slopes, is located in an area of map unit 121. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 25 percent pebbles.

A--0 to 2 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; hard, friable, sticky and slightly plastic; few very fine and fine roots; common very fine interstitial, many very fine and fine vesicular pores; 10 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

AB--2 to 5 inches; pale brown (10YR 6/3) gravelly silt loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; 25 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bqk--5 to 10 inches; very pale brown (10YR 7/3) gravelly silt loam, brown (10YR 5/3) moist; massive; hard, friable, sticky and plastic; many very fine, fine, common medium, and few coarse roots; many very fine interstitial pores; 10 percent weakly cemented durinodes; 25 percent pebbles and duripan fragments; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bqkm--10 to 35 inches; white (10YR 8/1) indurated duripan, white (10YR 8/1) moist; massive; very rigid; continuous 1 to 2 millimeters thick horizontal silica laminae on upper surface; 60 percent pebbles; violently effervescent; clear wavy boundary.

Type location: Elko County, Nevada; approximately 27 miles north of Wells; about 500 feet west and 1,250 feet north of the southeast of corner of section 5, T. 41 N., R. 64 E.; (41 degrees, 27 minutes, 50 seconds north latitude and 114 degrees, 44 minutes, 40 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June to October.
Soil temperature: 47 to 52 degrees F.
Depth to indurated duripan: 10 to 20 inches.
Control section:
Clay content--18 to 27 percent.
Rock fragments--Averages 15 to 35 percent, mainly pebbles of which approximately 80 to 90 percent are comprised of duripan fragments.

A horizon:
Value--6 or 7 dry, 3 or 4 moist.
Chroma--2 or 3.

AB horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Structure--Subangular blocky or is massive.

Bqk horizon:
Value--6 through 8 dry, 4 through 6 moist.
Chroma--3 or 4.
Cementation--10 to 40 percent weak or strongly cemented durinodes.
Texture--Very gravelly silt loam, gravelly silt loam or very cobbly silt loam.
Rock fragments--15 to 40 percent pebbles and duripan fragments of which up to 30 percent are cobbles.

Pequop Series

The Pequop series consists of very deep, well drained soils that formed in colluvium and residuum derived from mixed rocks. Pequop soils are on side slopes of hills, mountains, and pediments. Slopes are 8 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Typic Argixerolls

Typical pedon: Pequop gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 419. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles and 5 percent cobbles.

A1--0 to 3 inches; brown (10YR 5/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; 30 percent pebbles; neutral (pH 7.0) clear smooth boundary.

A2--3 to 10 inches; brown (10YR 5/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and common medium roots; many fine and few medium tubular pores; 30 percent pebbles; neutral (pH 7.2); clear smooth boundary.

Bt1--10 to 14 inches; brown (7.5YR 5/4) very gravelly clay loam, dark brown (7.5YR 3/4) moist; moderate medium and coarse subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many fine and few medium roots; common fine and few very fine tubular pores; many moderately thick clay films lining pores, bridging mineral grains on faces of peds and as colloid stains; 50 percent pebbles; neutral (pH 7.2); gradual smooth boundary.

Bt2--14 to 20 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, dark brown (7.5YR 3/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; many fine and few medium roots; few very fine and common fine tubular pores; common thin clay films as colloid stains, bridging mineral grains and lining pores; 50 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt3--20 to 31 inches; brown (7.5YR 5/4) extremely gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; massive; hard, firm, slightly sticky and moderately plastic; common fine and medium roots; few very fine and common fine tubular pores common thin clay films as colloidal stains, bridging mineral grains and on faces of peds; 60 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.4); gradual smooth boundary.

Bt4--31 to 39 inches; light reddish brown (5YR 6/3) extremely gravelly sandy clay loam, reddish brown (5YR 4/4) moist; massive; hard, firm, slightly sticky and moderately plastic; few fine roots; few very fine and common fine tubular pores; few thin clay films as colloid stains and bridging mineral grains; 60 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.4); gradual smooth boundary.

Bt5--39 to 60 inches; light reddish brown (5YR 6/3) very gravelly sandy clay loam, reddish brown (5YR 4/4) moist; massive; hard, firm, slightly sticky and moderately plastic; few very fine and common fine tubular pores; few thin clay films as colloid stains and bridging mineral grains, 40 percent pebbles and 15 percent cobbles; slightly alkaline (pH 7.4).

Type location: Elko County, Nevada; about 5 miles east of the O'Niel Basin; about 100 feet north and 200 feet west of the southeast corner of section 32, T. 45 N., R. 62 E.; (41 degrees, 44 minutes, 33 seconds north latitude and 114 degrees, 58 minutes, 21 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry mid-July through October.
Soil temperature: 43 to 47 degrees F.
Mollic epipedon thickness: 10 to 20 inches.
Depth to base of argillic horizon: 40 to 60 inches.
Control section:
Clay content--20 to 35 percent.
Reaction--Neutral or slightly alkaline.
Rock fragments--40 to 70 percent, dominantly pebbles.

A horizons:
Value--3 through 5 dry, 2 through 4 moist.
Chroma--1 through 3.

Bt horizons:
Hue--10YR, 7.5YR or 5YR.
Value--3 through 5 moist, 5 or 6 dry.
Chroma--3 through 6 dry, 3 or 4 moist.
Texture--Very gravelly sandy clay loam, extremely gravelly sandy clay loam or very gravelly clay loam with less than 35 percent silt.
Clay content--20 to 35 percent.
Rock fragments--40 to 70 percent, dominantly pebbles.

Structure--Very fine, fine or medium subangular blocky or massive.

Pernty Series

The Pernty series consists of shallow, well drained soils that formed in residuum and some colluvium derived from mixed rocks. Pernty soils are on mountains and hills. Slopes are 15 to 50 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed frigid Lithic Argixerolls

Typical pedon: Pernty very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 631. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles and 2 percent cobbles.

A--0 to 3 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores and few fine tubular pores; 45 percent pebbles; neutral (pH 7.3); clear wavy boundary.

Bt1--3 to 9 inches; brown (10YR 5/3) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and few medium roots; common very fine interstitial pores; few thin clay films on faces of peds; 35 percent pebbles and 5 percent cobbles; neutral (pH 7.3); clear wavy boundary.

Bt2--9 to 16 inches; yellowish brown (10YR 5/4) very gravelly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; hard, firm, very sticky and very plastic; few very fine roots; common very fine interstitial pores; many thick clay films on faces of peds and lining pores; 50 percent pebbles and 5 percent cobbles; neutral (pH 7.3); abrupt wavy boundary.

R--16 to 20 inches; fractured sandstone with many moderately thick clay films coating the bedrock surface with approximately 10 percent soil between fractures.

Type location: Elko County, Nevada; approximately 13 miles north of Cobre; about 2,800 feet north and 500 feet west of the southeast corner of section 25, T. 40 N., R. 67 E.; (41 degrees, 19 minutes, 30 seconds north latitude and 114 degrees, 20 minutes, 12 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in some part from late October through early June and is dry for 90 to 120 consecutive days.
Soil temperature: 42 to 47 degrees.
Average summer soil temperature: 59 to 64 degrees F.
Mollic epipedon thickness: 7 to 10 inches, includes the upper Bt horizon.
Depth to base of Bt horizon: 14 to 20 inches.
Depth to lithic contact: 14 to 20 inches.
Control section:
Clay content--25 to 35 percent, when mixed.
Rock fragments--35 to 50 percent when mixed, mainly pebbles or cobbles.

A horizon:
Chroma--2 or 3.

Bt horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very gravelly clay loam, very gravelly loam or very cobbly clay loam.
Structure--Weak or moderate subangular blocky or is massive.

Pibler Series

The Pibler series consists of shallow, well drained soils that formed in alluvium derived from mixed rocks. Pibler soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 52 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic, shallow Xerollic Paleorthids

Typical pedon: Pibler very gravelly fine sandy loam, 2 to 8 percent slopes, is located in an area of map unit 1052. (Colors are for dry soil unless

otherwise noted.) The soil surface is partially covered with 50 percent pebbles.

A--0 to 3 inches; light brownish gray (10YR 6/2) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine and fine vesicular pores; 35 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk--3 to 10 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and few fine roots; common very fine interstitial pores; very thin lime coats on pebbles, thin lime pendants on undersides of pebbles; 45 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bkm1--10 to 26 inches; white (10YR 8/1) indurated lime hardpan with a continuous thin, 1 to 3 mm thick lamella, light gray (10YR 7/2) moist; massive; very rigid; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bkm2--26 to 48 inches; white (10YR 8/1) continuous strongly lime cemented hardpan with alternating layers of weakly lime cemented extremely gravelly loamy sand, light gray (10YR 7/2) moist; massive; extremely hard, slightly rigid; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

3Ck--48 to 61 inches; very pale brown (10YR 7/3) extremely gravelly sand, yellowish brown (10YR 5/4) moist; massive; hard; firm, nonsticky and nonplastic; many very fine interstitial pores; discontinuous weak lime cementation; 75 percent pebbles; violently effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 6 miles east of Montello; about 50 feet west and 15 feet south of the northeast corner of section 19, T. 39 N., R. 70 E.; (41 degrees, 15 minutes, 21 seconds north latitude and 114 degrees, 04 minutes, 48 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry mid June through October.

Soil temperature: 53 to 57 degrees F.

Depth to petrocalcic horizon: 7 to 20 inches.

Carbonates--Averages 20 to 40 percent between a depth of 10 inches and the petrocalcic horizon.

Reaction--Moderately alkaline to strongly alkaline.

A horizon:

Value--5 through 7 dry, 3 or 4 moist.

Chroma--2 through 4.

Bk horizon:

Value--6 through 8 dry, 4 through 6 moist.

Chroma--2 through 4.

Textures--Very gravelly loam or very gravelly fine sandy loam.

Consistence--Soft through hard dry.

Bkm horizon:

Value--7 or 8 dry, 5 through 7 moist.

Chroma--1 through 4.

Structure--Platy or it is massive.

Other features--Lamella is absent in some pedons.

Player Series

The Player series consists of very deep, well drained soils that formed in colluvium derived from welded tuff. Player soils are on mountains. Slopes are 30 to 50 percent. The mean annual precipitation is about 14 inches, and the mean annual temperature is about 44 degrees.

Taxonomic class: Clayey-skeletal, montmorillonitc, frigid Ultic Palexerolls

Typical pedon: Player gravelly loam, 30 to 50 percent slopes, is located in an area of map unit 3040. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 50 percent pebbles and 10 percent cobbles.

A--0 to 10 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; many very fine tubular pores; 20 percent pebbles; neutral (pH 7.1); abrupt wavy boundary.

Bt1--10 to 22 inches; brown (7.5YR 5/4) extremely gravelly clay, dark brown (7.5YR 3/4) moist; strong very fine subangular blocky structure; hard, firm, very sticky and very plastic; common very fine, fine, and medium roots; few very fine tubular pores; common moderately thick clay films on faces of peds and lining pores; 50 percent pebbles and 15 percent cobbles; neutral (pH 7.1); clear smooth boundary.

Bt2--22 to 47 inches; brown (7.5YR 5/4) extremely gravelly clay, dark brown (7.5YR 4/4) moist; strong medium angular blocky structure; slightly hard, firm, very sticky and very plastic; few very fine, fine, and medium roots; few very fine tubular pores; common moderately thick clay films on faces of peds and lining pores; 55 percent pebbles and 15 percent cobbles; neutral (pH 7.3); clear smooth boundary.

Bt3--47 to 62 inches; light brown (7.5YR 6/4) very gravelly clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, firm, very sticky and moderately plastic; few very fine roots; few very fine tubular pores; few thin clay films on faces of peds and lining pores; 45 percent pebbles and 5 percent cobbles; neutral (pH 7.3).

Type location: Elko County, Nevada; approximately 7 miles west of Jackpot; about 500 feet east and 500 feet north of the southwest corner of section 3, T. 47 N., R. 63 E.; (41 degrees, 59 minutes, 07 seconds north latitude and 114 degrees, 49 minutes, 55 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist; dry from about mid-July through mid-October.
Soil temperature: 42 to 45 degrees F.
Mollic epipedon thickness: 10 to 20 inches.
Base saturation: 55 to 65 percent, in the upper 30 inches.
Control section:
Clay content--45 to 60 percent.
Reaction--Slightly acid or neutral.
Rock fragments--45 to 75 percent, mainly pebbles.

A horizon:
Hue--10YR or 7.5YR.
Value--3 through 5 dry, 2 through 4 moist.
Chroma--1 or 2 dry or moist.

Bt horizons:
Hue--10YR or 7.5YR.
Value--3 through 6 dry, 2 through 4 moist.
Chroma--2 through 4 dry or moist.
Textures--Very gravelly clay, extremely gravelly clay.
Structure--Strong or moderate, very fine to medium, angular blocky or subangular blocky.
Some pedons have very gravelly clay loam in the lower part of the Bt horizon.

Puett Series

The Puett series consists of shallow, well drained soils formed in residuum and colluvium derived from mixed rocks. Puett soils are on hills, pediments, fan remnants. Slopes are 4 to 50 percent. The mean annual precipitation is about 9 inches and mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed (calcareous), mesic, shallow Xeric Torriorthents

Typical pedon: Puett gravelly sandy loam, 15 to 50 percent slopes, is located in an area of map unit 685. (Colors are for dry soils unless otherwise noted.) The soil surface is partially covered with 50 percent pebbles.

A--0 to 3 inches; light brownish gray (2.5Y 6/2) gravelly sandy loam, grayish brown (2.5Y 5/2) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine interstitial vesicular pores; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

C1--3 to 6 inches; light brownish gray (2.5Y 6/2) gravelly sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine interstitial pores; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

C2--6 to 11 inches; light gray (2.5Y 7/2) gravelly loam, light brownish gray (2.5Y 6/2) moist; massive; slightly hard, very friable, slightly

sticky and slightly plastic; common very fine, fine, and few medium roots; common very fine irregular pores; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
Cr--11 to 20 inches; soft weathered tuff rock with gravels in place that are unweathered.

Type location: Elko County, Nevada; approximately 32 miles north of Wells in an unsectionalized area of T. 42 N., R. 63 E.; (41 degrees, 31 minutes, 04 seconds north latitude and 114 degrees, 48 minutes, 10 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry June through October.
Soil temperature: 47 to 52 degrees F.
Depth to bedrock: 10 to 20 inches.
Control section:
Clay content--5 to 10 percent.
Reaction--Moderately alkaline or strongly alkaline.
Effervescence--Strongly effervescent or violently effervescent, throughout. Lime coats on pebbles in lower part of some pedons.
Rock fragments--Up to 35 percent pebbles.

A horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.

C horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture of fine earth--Loamy fine sand to loam but is dominantly coarse sandy loam to loam. Gravelly loam or gravelly sandy loam is common in some pedons.
Structure--Subangular blocky or massive.

Quarz Series

The Quarz series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks. Quarz soils are on hills. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, frigid Aridic Argixerolls

Typical pedon: Quarz very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 232. (Colors are for dry soils unless otherwise noted.). The soil surface is partially covered with 45 percent pebbles and 5 percent cobbles.

A1--0 to 3 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine, fine, medium vesicular, and few fine tubular pores; 40 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.
Bt1--3 to 9 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate, medium subangular blocky structure; hard, friable, very sticky and moderately plastic; many very fine, fine, and few medium roots; many very fine and fine tubular pores; common moderately thick clay films lining pores, bridging mineral grains and on faces of peds; 30 percent pebbles and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.
Bt2--9 to 14 inches; yellowish brown (10YR 5/4) very gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate, medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine and few fine roots; common fine tubular pores; many thick clay films lining pores, bridging mineral grains and on faces of peds; 40 percent pebbles and 10 percent cobbles; neutral (pH 7.2); clear smooth boundary.
Bt3--14 to 23 inches; yellowish brown (10YR 5/4) extremely gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky; hard, firm, very sticky and very plastic; few fine roots; common fine tubular pores; many thick clay films lining pores, bridging mineral grains and on faces of peds; few medium soft lime masses and threads; 45 percent pebbles and 25 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.
R--23 inches; highly fractured welded tuff.

Type location: Elko County, Nevada; approximately 4 miles northwest of the O'Niel Basin; about 1,000 feet south and 1,000 feet west of the northeast corner of section 3, T. 45 N., R. 61 E.; (41 degrees, 49 minutes, 19 seconds north latitude and 115 degrees, 03 minutes, 10 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry late July through October.
Soil temperature: 44 to 47 degrees F.
Depth to bedrock: 20 to 40 inches.
Thickness of mollic epipedon: 7 to 16 inches which includes the upper part of the argillic horizon in some pedons.
Control section:
Clay content--35 to 55 percent.
Rock fragments--35 to 60 percent, mainly pebbles with up to 15 cobbles.
Reaction--Neutral or slightly alkaline.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Hue--5YR, 7.5YR or 10YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--3 through 5.
Texture--Dominantly very gravelly clay loam or very gravelly clay with very cobbly clay loam or extremely gravelly clay common in some subhorizons.
Structure--Subangular blocky, angular blocky or prismatic.

Quopant Series

The Quopant series consists of shallow, well drained soils that formed in colluvium and residuum from volcanic rocks. The Quopant soils are on hills and mountains. Slopes are 15 to 75 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid, shallow Typic Argixerolls

Typical pedon: Quopant very gravelly sandy loam, 30 to 75 percent slopes, is located in an area of map unit 748. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles and 15 percent cobbles.

A--0 to 5 inches; grayish brown (10YR 5/2) very gravelly sandy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common fine tubular pores; 30 percent pebbles and 10 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt1--5 to 11 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, very friable, slightly sticky and moderately plastic; many very fine, fine, and few medium roots; common fine tubular pores; few thin clay films as colloid stains and bridging mineral grains; 35 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt2--11 to 14 inches; pale brown (10YR 6/3) very gravelly sandy clay loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, fine, and few medium roots; common fine tubular and many very fine interstitial pores; few thin clay films as colloidal stains and bridging mineral grains; few very thin lime and silica coats on undersides of pebbles; 35 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

2C--14 to 18 inches; pale brown (10YR 6/3) sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; common fine roots; many very fine interstitial pores; 20 percent very soft tuff fragments; slightly alkaline (pH 7.6); abrupt wavy boundary.

2Cr--18 inches; highly weathered ash flow tuffs.

Type location: Elko County, Nevada; approximately 9 miles southwest of Contact; about 1,500 feet north and 750 feet east of the southwest corner of section 36 T. 45 N., R. 62 E.; (41 degrees, 44 minutes, 50 seconds north latitude

and 114 degrees, 54 minutes, 39 west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, but are dry from July through October, moist in the winter and spring.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 9 to 14 inches, includes upper part of the Bt horizon.
Depth to paralithic contact: 14 to 20 inches.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Value--5 or 6 dry, 3 or 4 moist with darker value common to the upper subhorizon.
Chroma--2 or 3.
Texture--Very gravelly loam, very gravelly clay loam or very gravelly sandy clay loam.
Clay content--18 to 30 percent.
Rock fragments--35 to 50 percent, mainly pebbles that are larger than 5 millimeter.
Structure--Fine to coarse subangular blocky.

2C horizon:
Value--5 or 6 dry; 3 or 4 moist.
Chroma--2 or 3.
Texture--Sandy loam or loam.
Rock fragments--10 to 20 percent soft tuff fragments.

Rodie Series

The Rodie series consists of very deep, moderately well drained soils that formed in colluvium derived from pyroclastic and volcanic rocks. The Rodie soils are on hills and mountains. Slopes are 4 to 75 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Aridic Duric Haploxerolls

Typical pedon: Rodie very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 420. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 55 percent pebbles and 10 percent cobbles.

A1--0 to 2 inches; light brownish gray (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine and few fine tubular pores; 50 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.
A2--2 to 6 inches; brown (10YR 5/3) very gravelly silt loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine and few fine tubular pores; 35 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.
A3--6 to 14 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine, few fine, and medium tubular pores; 50 percent pebbles; slightly alkaline (pH 7.8); abrupt irregular boundary.
Bw--14 to 26 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; common fine and medium faint grayish brown (10YR 5/2) mottles; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine, few fine, and medium tubular pores; 50 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.
Bqk1--26 to 30 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; many very fine manganese nodules; many very thin silt coats lining pores, on faces of peds and on rock fragments; 50 percent weak discontinuous silica cementation; few thin lime and silica pendants on the undersides of rock fragments; 50 percent pebbles and 5 percent cobbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
Bqk2--30 to 34 inches; very pale brown (10YR

7/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm and brittle, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; many very fine manganese nodules; many very thin silt coats lining pores; many thin to moderately thick lime and silica pendants on the undersides of rock fragments; common fine soft masses of lime, and few very fine seams and filaments of lime; 50 percent pebbles and 20 percent cobbles; continuous brittle matrix; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqk3--34 to 39 inches; very pale brown (10YR 7/3) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, firm and brittle, nonsticky and nonplastic; few very fine roots; common very fine and fine tubular pores; many very fine manganese nodules; many very thin silt coats lining pores; common thin to moderately thick lime and silica pendants on the undersides of rock fragments; common fine soft masses of lime, and few very fine seams and filaments of lime; 55 percent pebbles and 10 percent cobbles; continuous brittle matrix; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bqk4--39 to 60 inches; very pale brown (10YR 7/3) extremely gravelly loamy coarse sand, brown (10YR 4/3) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; many very fine manganese nodules; common thin to moderately thick lime and silica pendants on the undersides of rock fragments; 55 percent pebbles and 10 percent cobbles; continuous brittle matrix; strongly effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada; approximately 6 miles northwest of Contact; about 660 feet east and 1,320 feet north of the southwest corner of section 34 T. 46 N., R. 63 E.; (41 degrees, 49 minutes, 35 seconds north latitude and 114 degrees, 49 minutes, 40 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, and dry from July through October for 90 to 120 consecutive days.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 10 to 15 inches.
Depth to carbonates: 12 to 39 inches.
Depth to continuous brittle matrix: 21 to 39 inches.
Control section:
Clay content--Averages 15 to 25 percent.
Rock fragments--50 to 70 percent, dominantly pebbles.

A horizons:
Value--5 or 6 dry, 3 or 4 moist. When the upper 7 inches are mixed, the value is darker than 5.5, and 3.5 moist.
Chroma--2 or 3.
Reaction--Neutral or slightly alkaline.

Bw horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Very gravelly loam or very gravelly sandy loam.
Clay content--15 to 25 percent.
Rock fragments--50 to 60 percent pebbles.
Mottles--None to common.

Bqk horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Very gravelly loam, very gravelly sandy loam, or extremely gravelly sandy loam with extremely gravelly loamy coarse sand or sandy loam common in the lower subhorizons.
Clay content--15 to 25 percent.
Rock fragments--50 to 70 percent, mainly pebbles.
Structure--Weak subangular blocky or it is massive.
Reaction--Moderately alkaline or strongly alkaline.
Manganese nodules--Common or many.
Silt coats--Commonly line pores in most of the upper subhorizons.
Other features--Continuous brittle matrix and discontinuously lime cemented in some subhorizon above 40 inches with up to 30 percent durinodes common in any subhorizon.

Scalfar Series

The Scalfar series consists of very deep, well drained soils that formed in colluvium derived from pyroclastic and volcanic rocks. The Scalfar soils

are on mountains, hills, and fan remnants. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Calcic Argixerolls

Typical pedon: Scalfar very gravelly loam, 15 to 50 percent slopes, is located in an area of map unit 651.(Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles and 5 percent cobbles.

A--0 to 2 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine vesicular and common fine tubular pores; 30 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bt1--2 to 5 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine, and few medium roots; common very fine and fine tubular pores; many thin clay films lining pores, bridging mineral grains and as colloid stains on mineral grains; 45 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2--5 to 11 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine, fine, and few medium roots; common very fine and fine tubular pores; many thin clay films lining pores, bridging mineral grains and as colloid stains on mineral grains; 45 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.8); gradual wavy boundary.

2Bw--11 to 25 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine and fine tubular pores; many silt coats on rock fragments; 45 percent pebbles and 25 percent cobbles; slightly alkaline (pH 7.8); clear wavy boundary.

2Bk1--25 to 37 inches; pale brown (10YR 6/3) extremely cobbly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine tubular pores; many thin lime and silica coats on undersides of pebbles; common fine and medium soft lime masses; 45 percent pebbles and 25 percent cobbles; violently effervescent in spots in a slightly effervescent matrix; moderately alkaline (pH 7.9); clear wavy boundary.

2Bk2--37 to 60 inches; pale brown (10YR 6/3) extremely cobbly coarse sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and slightly plastic; few very fine roots; many very fine and fine tubular pores; many fine, medium and coarse soft lime masses; many moderately thick lime coats on pebbles and cobbles; 35 percent pebbles and 40 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

Type location: Elko County, Nevada; approximately 27 miles north of Wells; about 2,000 feet south and 800 feet east of the northwest corner of section 36, T. 43 N., R. 61 E.; (41 degrees, 34 minutes, 37 seconds north latitude and 115 degrees, 01 minutes, 37 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry from July to October, moist in late fall through early summer.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 10 to 14 inches, includes the argillic horizon.
Depth to calcic horizon: 21 to 35 inches.
Depth to 2Bw horizon: 10 to 14 inches.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Value--4 or 5 dry.
Chroma--2 or 3.
Clay content--27 to 35 percent.
Rock fragments--35 to 60 percent, mainly pebbles.

Reaction--Slightly alkaline or moderately alkaline.

2Bw horizon:
Texture--Very cobbly or extremely cobbly loam.
Clay content--10 to 20 percent.
Reaction--Slightly alkaline or moderately alkaline.

2Bk horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Extremely cobbly sandy loam, or extremely cobbly coarse sandy loam.
Clay content--8 to 18 percent.
Rock fragments--60 to 80 percent, mainly cobbles and pebbles.
Reaction--Moderately alkaline or strongly alkaline.

Shafter Series

The Shafter series consists of shallow to an indurated limepan, well drained soils that formed in alluvium derived from limestone, dolomite, loess, and volcanic ash. The Shafter soils are on fan remnants. Slopes are 2 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Typic Paleorthids

Typical pedon: Shafter gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 1040. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles.

A--0 to 3 inches; light yellowish brown (10YR 6/4) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine and common fine vesicular pores; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk--3 to 14 inches; light gray (10YR 7/2) gravelly very fine sandy loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and many fine roots; many very fine and few fine interstitial pores; common thin lime pendants on undersides of rock fragments; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bkm--14 to 30 inches; white (10YR 8/2) indurated lime-cemented hardpan with some accessory silica cementation; light yellowish brown (10YR 6/4) moist; massive; very rigid; violently effervescent; abrupt wavy boundary.

2Ck--30 to 61 inches; white (10YR 8/2) stratified sandy loam to very gravelly coarse sand, light yellowish brown (10YR 6/4) moist; alternating lenses and layers of up to 60 percent discontinuous 1/4 to 1 inch thick strong lime cementation; single grain; loose; nonsticky and nonplastic; many thin lime pendants on undersides of pebbles; averages 55 percent pebbles; violently effervescent; strongly alkaline (pH 8.5).

Type location: Elko County, Nevada; approximately 4 miles east of Montello; about 80 feet south and 450 feet east of the northwest corner of section 24, T. 39 N., R. 69 E.; (41 degrees, 15 minutes, 22 seconds north latitude and 114 degrees, 06 minutes, 58 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry late May through early November.
Soil temperature: 53 to 59 degrees F.
Depth to indurated petrocalcic horizon: 10 to 20 inches.
Control section:
Clay content--8 to 18 percent.
Rock fragments--15 to 35 percent, mainly pebbles.
Reaction--Moderately alkaline or strongly alkaline.
Effervescence--Strongly effervescent or violently effervescent.
Calcium carbonate equivalent--Averages 15 to 30 percent for the less than 20 millimeter fraction above the petrocalcic horizon.

A horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4 dry, 2 or 3 moist.

Bk horizon:
Value--6 or 7 dry, 4 or 5 moist.

Chroma--2 or 3.
Texture--Gravelly very fine sandy loam, gravelly loam or gravelly silt loam.
Clay content--8 to 18 percent.
Rock fragments--15 to 35 percent mainly pebbles.
Structure--Weak or moderate subangular blocky, or is massive.
Lime pendants--Thin or moderately thick.

Bkm horizons:
Value--7 or 8 dry, 6 or 7 moist.
Chroma--2 through 4.

2Ck horizons:
Value--7 or 8 dry, 5 or 6 moist.
Chroma--2 through 4.
Texture--Stratified sandy loam to extremely gravelly coarse sand.
Clay content--0 to 8 percent.
Rock fragments--45 to 75 percent, mainly pebbles.
Lime cementation--Weak to strong, 30 to 70 percent discontinuous lenses or layers.

Shalcleav Series

The Shalcleav series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from mixed rocks. The Shalcleav soils are on hills and mountains. Slopes are 4 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Argixerolls

Typical pedon: Shalcleav extremely gravelly silt loam, 4 to 15 percent slopes, is located in an area of map unit 420. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles and 5 percent cobbles.

A1--0 to 1 inch; grayish brown (10YR 5/2) extremely gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; many very fine and fine vesicular pores; 60 percent pebbles and 5 percent cobbles; neutral (pH 7.2) abrupt wavy boundary.

A2--1 to 4 inches; grayish brown (10YR 5/2) very gravelly silt 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; common very fine and fine tubular pores; 50 percent pebbles and 5 percent cobbles; neutral (pH 7.3); abrupt smooth boundary.

Bt1--4 to 9 inches; grayish brown (10YR 5/2) very channery silt loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine, fine and few medium roots; common very fine and fine tubular pores; few thin clay films on faces of peds; 5 percent pebbles, 25 percent channers, and 10 percent flagstones; neutral (pH 7.0); abrupt wavy boundary.

Bt2--9 to 12 inches; brown (10YR 5/3) extremely flaggy clay, dark brown (10YR 4/3) moist; moderate fine angular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine and fine tubular pores; few moderately thick clay films on faces of peds; 5 percent very soft rock fragments; 40 percent channers, 40 percent flagstones, and 5 percent stones; neutral (pH 6.8); abrupt smooth boundary.

R--12 inches; highly fractured, welded tuffs.

Type location: Elko County, Nevada; approximately 10 miles south of Jackpot; about 2,500 feet west and 2,000 feet north of the southeast corner of section 22, T. 46 N., R. 63 E.; (41 degrees, 51 minutes, 29 seconds north latitude and 114 degrees, 49 minutes, 18 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry from July to October for 70 to 100 consecutive days.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 4 to 12 inches, includes all or part of the Bt horizons.
Depth to bedrock: 4 to 12 inches.
Control section:
Clay content--Averages 28 to 35 percent.
Rock fragments--60 to 75 percent, mainly channers and flagstones.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Hue--7.5YR or 10YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very channery silt loam or very channery clay loam in the upper subhorizon and extremely channery clay loam, extremely channery clay or extremely flaggy clay in the lower subhorizon overlying the bedrock.
Clay content--30 to 40 percent.
Rock fragments--40 to 60 percent in the upper subhorizon and 60 to 85 percent in the lower subhorizons mainly channers and flagstones.
Structure--Subangular blocky or angular blocky.

Shalper Series

The Shalper series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from rocks. The Shalper soils are on hills and pediments. Slopes are 2 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Argixerolls

Typical pedon: Shalper very gravelly loam, 15 to 30 percent slopes, is located in an area of map unit 235. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles.

A1--0 to 5 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine, fine and medium roots; few very fine tubular pores; 35 percent pebbles; neutral (pH 6.8); clear wavy boundary.
A2--5 to 9 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 roots; common very fine tubular pores; 45 percent pebbles; neutral (pH 7.0); clear wavy boundary.
Bt--9 to 12 inches; yellowish brown (10YR 5/4) very gravelly 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 fine roots; common very fine tubular pores; 45 percent pebbles; 10 percent of pebbles have silica pendants on undersides; neutral (pH 7.0); abrupt wavy boundary.
R--12 inches; hard, fractured rhyolite.

Type location: Elko, County, Nevada; approximately 19 miles southeast of Jackpot; about 700 feet east and 500 feet south of the northwest corner of section 3, T. 45 N., R. 62 E.; (41 degrees, 49 minutes, 23 seconds north latitude and 114 degrees, 56 minutes, 30 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October for 70 to 100 consecutive days.
Soil temperature: 45 to 47 degrees F.
Mollic epipedon thickness: 4 to 12 inches.
Depth to bedrock: 4 to 12 inches.
Control section:
Clay content--18 to 28 percent.
Other features--In some pedons the mollic epipedon includes all of the Bt horizon and is underlain directly by rock.
Rock fragments--35 to 60 percent, mainly pebbles.

A horizons:
Value--5 or 6 dry, 3 or 4 moist; when the upper 7 inches are mixed, value is less than 5.5 dry and 3.5 moist.
Chroma--2 or 3.

Bt horizon:
Value--3 or 4 moist.
Chroma--3 or 4 moist.
Texture--Very gravelly loam or very gravelly clay loam.
Clay content--Averages 24 to 35 percent.
Rock fragments--35 to 60 percent, mainly pebbles.
Structure--Weak to moderate subangular blocky and angular blocky.

Other features--Some pedons have thin subhorizons of clay, modified by 35 to 65 percent rock fragments directly over bedrock.

Shivlum Series

The Shivlum series consists of very deep, well drained soils that formed in colluvium derived from sedimentary rocks. The Shivlum soils are on hills. Slopes are 4 to 15 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine-silty, mixed, frigid Aridic Argixerolls

Typical pedon: Shivlum silt loam, 4 to 15 percent slopes, is located in an area of map unit 3017. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A1--0 to 4 inches; grayish brown (10YR 5/2) silt loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine and fine tubular pores; neutral (pH 7.1); clear wavy boundary.

A2--4 to 11 inches; brown (10YR 5/3) silt loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and few fine tubular pores; neutral (pH 7.2); clear wavy boundary.

Bt1--11 to 17 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, few fine, and medium roots; common very fine and few fine tubular pores; few thin clay films on faces of peds and common thin clay films lining pores; neutral (pH 7.3); clear wavy boundary.

Bt2--17 to 30 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate medium angular blocky structure; hard, firm, very sticky and very plastic; few very fine and fine roots; common very fine and few fine interstitial, and tubular pores; common thin clay films on faces of peds and lining pores; neutral (pH 7.2); clear wavy boundary.

2Bt3--30 to 60 inches; light yellowish brown (10YR 6/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium angular blocky structure; hard, firm, very sticky and very plastic; many very fine and few fine interstitial pores; common thin clay films on faces of peds and lining pores; neutral (pH 7.2).

Type location: Elko County, Nevada; approximately 16 miles northeast of Wells; in an unsurveyed section of T. 38 N., R. 64 E.; (41 degrees, 10 minutes, 48 seconds north latitude and 114 degrees, 44 minutes, 06 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from late June through October.
Soil temperature: 45 to 47 degrees F.
Mollic epipedon thickness: 10 to 17 inches. Includes the upper part of the argillic horizon.
Depth to the 2Bt horizon: 24 to 40 inches.
Combined A and Bt horizon thickness: 60 to 80 inches.
Control section:
Clay content--25 to 35 percent.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 through 4 dry or moist.
Structure--Prismatic, angular blocky, or subangular blocky.
Texture--Silt loam or silty clay loam in the upper part with clay loam common in the lower part.

Shuttle Series

The Shuttle series consists of deep or very deep, well drained soils that formed in alluvium derived from mixed rocks. The Shuttle soils are on fan skirts. Slopes are 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Durorthidic Torriorthents

Typical pedon: Shuttle silt loam, 2 to 8 percent slopes, is located in an area of map unit 2001. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles.

A1--0 to 3 inches; light brownish gray (10YR 6/2) silt loam, brown (10YR 4/3) moist; moderate very thin platy structure; slightly hard, friable, nonsticky and slightly plastic; few very fine and fine roots; many very fine and fine vesicular pores; 8 percent calcium carbonate equivalent; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2--3 to 6 inches; light gray (10YR 7/2) silt loam; brown (10YR 5/3) moist; weak very thin platy structure; soft, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine interstitial pores; 10 percent calcium carbonate equivalent; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk--6 to 19 inches; very pale brown (10YR 7/3) very fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and slightly plastic; common very fine, fine and medium roots; few very fine interstitial pores; 14 percent calcium carbonate equivalent; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk1--19 to 28 inches; very pale brown (10YR 7/3) silt loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine interstitial pores; 10 percent, 5 to 10 millimeter hard, firm durinodes; 20 percent calcium carbonate equivalent; 5 percent pebbles; continuous brittle matrix; violently effervescent, moderately alkaline (pH 8.0); clear smooth boundary.

Bqk2--28 to 45 inches; very pale brown (10YR 7/3) silt loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine interstitial pores; 50 percent discontinuous weak silica cementation; 15 percent 5 to 10 millimeters durinodes; 18 percent calcium carbonate equivalent; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bqkm--45 to 60 inches; very pale brown (10YR 8/3) indurated duripan with several continuous 1 to 3 millimeters silica laminae banded throughout the horizon, with thick alternating layers of weakly cemented very gravelly sandy loam common, light yellowish brown (10YR 6/4) moist; very hard, very firm; violently effervescent; strongly alkaline (pH 8.5)

Type location: Elko County, Nevada; approximately 9 miles south of Montello about 2,000 feet east and 100 feet north of the southwest corner of section 14, T. 38 N., R. 69 E.; (41 degrees, 10 minutes, 08 seconds north latitude and 114 degrees, 08 minutes, 09 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry late May through early November.
Soil temperature: 53 to 57 degrees F.
Depth to continuous brittle matrix: 10 to 20 inches.
Depth to Bqkm horizon: 40 to over 80 inches when present.
Control section:
Clay content--8 to 15 percent.
Calcium carbonate equivalent--10 to 25 percent
Reaction--Moderately alkaline or strongly alkaline.
Other features--The Bqkm horizon is absent in some pedons.
Rock fragments--5 to 20 percent, mainly pebbles

A horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bk horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Clay content--8 to 18 percent.
Structure--Massive or weak subangular blocky.
Texture--Silt loam, very fine sandy loam or gravelly silt loam

Bqk horizons:
Hue--10YR or 2.5Y.
Chroma--3 or 4.
Clay content--5 to 15 percent.

Cementation--Continuous brittle matrix are 7 to 15 inches thick. Discontinuous weak silica cemented subhorizons have up to 30 percent 5 to 15 millimeters durinodes.
Other features--Substratum of stratified fine sandy loam to very gravelly sandy loam is common in some pedons below 40 inches.

Simon Series

The Simon series consists of very deep, well drained soils that formed in loess over gravelly and alluvium derived from mixed rocks. Simon soils are on fan remnants. Slopes are 4 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine-loamy, mixed, frigid Aridic Argixerolls

Typical pedon: Simon silt loam, 4 to 15 percent slopes, is located in an area of map unit 291. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; strong thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine interstitial pores; 5 percent pebbles; neutral (pH 7.2); clear smooth boundary.
A2--3 to 13 inches; grayish brown (10YR 5/2) silt loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and few fine roots; common very fine, fine tubular and interstitial pores; 5 percent pebbles; neutral (pH 7.2); clear smooth boundary.
Bt1--13 to 24 inches; yellowish brown (10YR 5/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; many very fine and common fine interstitial pores; many thin clay films on faces of peds and lining pores; 15 percent pebbles; neutral (pH 7.2); clear wavy boundary.
Bt2--24 to 43 inches; light yellowish brown (10YR 6/4) gravelly clay loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine and fine tubular pores; common thin clay films on faces of peds and lining pores; 20 percent pebbles; neutral (pH 7.2); clear wavy boundary.
C--43 to 60 inches; light yellowish brown (10YR 6/4) gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine interstitial pores; 30 percent pebbles; neutral (pH 7.0).

Type location: Elko County, Nevada; approximately 10 miles north of Wells; about 50 feet east of the southwest corner of section 16, T. 39 N., R. 62 E.; (41 degrees, 15 minutes, 32 seconds north latitude and 114 degrees, 58 minutes, 51 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry late June through October.
Soil temperature: 45 to 47 degrees F.
Mollic epipedon thickness: 10 to 17 inches, commonly including part of the argillic horizon.
Combined thickness of A and Bt horizons: 40 to 60 inches.
Control section:
Clay content--Averages 20 to 35 percent.
Reaction--Neutral or slightly acid.
Rock fragments--5 to 25 percent rock fragments, mainly pebbles.

A horizons:
Chroma--2 or 3.

Bt horizons:
Value--5 or 6 dry, 3 through 5 moist.
Chroma--2 through 4.
Texture--Loam, clay loam or gravelly clay loam in the upper part, cobbly clay loam, cobbly clay or gravelly clay loam in the lower part.
Structure--Weak or moderate, fine or medium subangular blocky or prismatic.

C horizons:
Value--5 or 6 dry, 4 or 5 moist.
Chroma--2 through 4.
Other features--Unconformable clay, or sand and gravel are below a depth of 40 inches in some pedons.

Snotown Series

The Snotown series consists of moderately deep, moderately well drained soils that formed in residuum and colluvium derived from sedimentary rocks. The Snotown soils are on hills and mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Loamy-skeletal, mixed Dystric Cryochrepts

Typical pedon: Snotown very gravelly coarse sandy loam, 15 to 50 percent slopes, is located in an area of map unit 757. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 70 percent pebbles.

A--0 to 3 inches; light yellowish brown (10YR 6/4) very gravelly coarse sandy loam, dark brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine and common fine interstitial and tubular pores; 55 percent pebbles; very strongly acid (pH 4.6); clear wavy boundary.

Bw1--3 to 7 inches; light yellowish brown (10YR 6/4) very gravelly coarse sandy loam, dark brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and few fine roots; common very fine tubular pores; 55 percent pebbles; very strongly acid (pH 4.6); clear wavy boundary.

Bw2--7 to 24 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine and few fine tubular pores; 50 percent pebbles; very strongly acid (pH 4.5); clear wavy boundary.

C--24 to 30 inches; brownish yellow (10YR 6/6) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many fine and common very fine tubular pores; many very thin silt coats lining pores; 60 percent pebbles, 5 percent cobbles; extremely acid (pH 4.4); abrupt wavy boundary.

R--30 inches; hard, fractured shale, with many prominent dark brown (7.5YR 3/4) manganese coats on bedding plane surfaces.

Type location: Elko County, Nevada; approximately 21 miles north of Wells in the Snake Mountains; about 500 feet east and 150 feet south of the northwest corner of section 32, T. 41 N., R. 62 E.; (41 degrees, 24 minutes, 23 seconds north latitude and 114 degrees, 59 minutes, 22 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry from late August through October.
Additional soil moisture: Supplied by lateral water movement in the lower subhorizon above the bedrock.
Soil temperature: 38 to 45 degrees F.
Average summer soil temperature: 43 to 47 degrees F.
Combined thickness of the A and Bw horizons: 15 to 30 inches.
Depth to bedrock: 20 to 40 inches.
Base saturation: 5 to 15 percent.
Control section:
Percent clay--12 to 18 percent.
Rock fragments--40 to 65 percent pebbles, up to 5 percent cobbles.

A horizon:
Value--5 or 6 dry, 3 or 4 moist. When mixed, value of the upper 7 inches is greater than 5.5 dry and 3.5 moist.
Chroma--2 through 4.

Bw horizons:
Value--5 or 6 dry.
Chroma--3 or 4.
Structure--Weak or moderate subangular blocky.
Reaction--Very strongly acid or extremely acid.

C horizon:
Value--5 or 6 dry.
Chroma--3 through 6.
Texture--Very gravelly sandy loam, extremely gravelly sandy loam or very gravelly coarse sandy loam.
Structure--Subangular blocky or the horizon is massive.
Reaction--Very strongly acid or extremely acid.

Pores--Lined with very thin silt coats or uncoated mineral grains.

Sodhouse Series

The Sodhouse series consists of shallow, well-drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. These soils are on fan remnants. Slopes are 2 to 8 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Typic Durorthids

Typical pedon: Sodhouse gravelly silt loam, 2 to 8 percent slopes, is located in an area of map unit 2040. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 40 percent pebbles.

A--0 to 3 inches; light gray (10YR 7/2) gravelly silt loam, brown (10YR 5/3) moist; strong very thick platy structure parting to weak thin platy; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; 15 percent pebbles, moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw--3 to 7 inches; very pale brown (10YR 7/3) gravelly loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine and fine tubular pores; 15 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk--7 to 14 inches; light yellowish brown (10YR 6/4) gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine and few medium roots; few fine interstitial pores; thick lime and silica coats on undersides of pebbles; violently effervescent; 30 percent pebbles; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bqkm--14 to 38 inches; white (10YR 8/2) indurated duripan, very pale brown (10YR 7/3) moist; massive; very rigid; 1 to 2 millimeters continuous laminar cap alternating with strong to weak silica and lime cementation; violently effervescent; clear wavy boundary.

2Bqk--38 to 61 inches; very pale brown (10YR 7/4) gravelly loam, yellowish brown (10YR 5/4) moist; massive; very hard, brittle, nonsticky and nonplastic; many fine interstitial pores; continuous brittle matrix; 30 percent pebbles; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 3 miles south of Montello; about 1,900 feet north of the southwest corner of section 13, T. 38 N., R. 68 E.; (41 degrees, 10 minutes, 03 seconds north latitude and 114 degrees, 14 minutes, 03 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry from June through November.
Soil temperature: 47 to 53 degrees F.
Depth to indurated duripan: 14 to 20 inches.
Thickness of duripan: 10 to 30 inches.
Depth to 2Bqk horizon: 25 to 44 inches.
Control section:
Clay content--8 to 15 percent.
Reaction--Moderately alkaline or strongly alkaline usually increasing with depth.
Other features--Durinodes and lime accumulations are common in subhorizons immediately above the duripan of some pedons.

A horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.
Other features--Normally noneffervescent, but some pedons are slightly effervescent due to lime recharge from dust.

Bw horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Texture--Very fine sandy loam, fine sandy loam, loam or gravelly loam.
Rock fragments--5 to 35 percent, mainly pebbles.

Bqkm horizon:
Hue--10YR or 2.5Y.

Value--6 through 8 dry, 4 through 7 moist.
Chroma--2 through 4.
Structure--Platy or is massive.

Bk or Bqk horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Texture--Extremely gravelly sandy loam, very gravelly loamy sand or gravelly loam.

Sondoa Series

The Sondoa series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks and lacustrine sediments. The Sondoa soils are on lake plains. Slopes are 0 to 2 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 53 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous) mesic Typic Torriorthents

Typical pedon: Sondoa silt loam, 0 to 2 percent slopes, is located in an area of map unit 186. (Colors are for dry soil unless otherwise noted.)

A--0 to 4 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; strong thick platy structure parting to strong thin platy; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine vesicular and few medium tubular pores; violently effervescent; strongly alkaline (pH 8.9); abrupt smooth boundary.

C1--4 to 11 inches; light gray (2.5Y 7/2) silt loam, grayish brown (2.5Y 5/2) moist; moderate medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine and few fine roots; many very fine interstitial pores; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

C2--11 to 17 inches; white (2.5Y 8/2) silt loam, light yellowish brown (2.5Y 6/4) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial pores; violently effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

C3--17 to 32 inches; light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; massive; slightly hard, very friable, moderately sticky and slightly plastic; few very fine roots; many very fine interstitial pores; violently effervescent, strongly alkaline (pH 8.6); clear wavy boundary.

2Cy--32 to 43 inches; light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; massive; slightly hard, very friable, moderately sticky and slightly plastic; few very fine roots; many very fine interstitial pores; few fine gypsum filaments; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

2Cq--43 to 63 inches; light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; common fine prominent dark brown (7.5YR 4/4) moist, relict mottles; moderate thin platy structure; hard, friable, moderately sticky and slightly plastic; few very fine roots; common very fine interstitial pores; 10 percent hard 5 to 10 millimeter durinodes; 30 percent brittle matrix; violently effervescent; strongly alkaline (pH 8.5).

Type location: Elko County, Nevada; approximately 2 miles southeast of Montello; about 1,200 feet west and 60 feet north of the southeast corner of section 16, T. 39 N., R. 69 E.; (41 degrees, 15 minutes, 28 seconds north latitude and 114 degrees, 09 minutes, 45 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry June through November.
Soil temperature: 53 to 57 degrees F.
Control section:
Percent clay--Averages 25 to 35 percent.
Reaction--Strongly alkaline and very strongly alkaline.
Calcium carbonate equivalent--4 to 12 percent.
Effervescence--Strongly effervescent or violently effervescent.

A horizon:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 3 through 5 moist. Buried A horizons near flood plain remnants commonly have the value of 3 moist and when rubbed, lighten to 4 moist.
Chroma--2 or 3.

Other features--Buried A horizons are common in some pedons.

C horizons:

Hue--10YR or 2.5Y.
Value--6 through 8 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture--Stratified silt loam and silty clay loam. Thin or very thin varves of fine sand are common in some pedons.
Clay content--25 to 35 percent.
Structure--Platy, prismatic, subangular blocky or horizon is massive.
SAR--Greater than 46.
Segregated lime--Soft masses of lime occur in subhorizons of some pedons.
Relict mottles--Are common in any subhorizon in the lower profile.
Other features--Some pedons have few gypsum filaments below 25 inches. Some pedons have weak discontinuous silica cementation or durinodes or both. Some pedons lack crustacean shells.

Sonoma Series

The Sonoma series consists of very deep, poorly drained soils that formed in silty alluvium derived from mixed rocks, loess, and volcanic ash. Sonoma soils are on flood plains and stream terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Fine-silty, mixed (calcareous), mesic Aeric Fluvaquents

Typical pedon: Sonoma silt loam, frequently flooded, 0 to 2 percent slopes, is located in an area of map unit 183. (Colors are for dry soil unless otherwise noted.)

A1--0 to 4 inches; light gray (2.5Y 7/2) silt loam, dark grayish brown (2.5Y 4/2) moist; strong thick platy structure; slightly hard, very friable, very sticky and slightly plastic; common very fine roots; common very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

A2--4 to 8 inches; light gray (10YR 7/2) silt loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

AC--8 to 14 inches; light gray (2.5Y 7/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, moderately sticky and slightly plastic; common very fine, fine, and medium roots; common very fine and fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1--14 to 26 inches; light gray (2.5Y 7/2) silty clay loam, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, very sticky and moderately plastic; common very fine and fine roots; many very fine tubular and interstitial pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

C2--26 to 36 inches; light gray (10YR 7/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine roots; few very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

C3--36 to 44 inches; light gray (10YR 7/2) silt loam, grayish brown (2.5Y 5/2) moist; common fine prominent dark yellowish brown (10YR 4/4) and brown (10YR 5/3) mottles, moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Ab--44 to 54 inches; gray (10YR 5/1) silty clay loam, black (10YR 2/1) moist; few fine distinct brown (10YR 4/3) mottles, moist; weak very thin platy structure; hard, friable, very sticky and very plastic; few very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Cg--54 to 60 inches; gray (5Y 6/1) silty clay loam, olive gray (5Y 4/2) moist; few fine distinct light olive gray (5Y 6/2) mottles, moist; massive; very hard, firm, very sticky and very plastic; few very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 14 miles north of Montello in an unsurveyed area; about 1,400 feet west and 1,300 feet south of the northwest corner of section 6, T.

41 N., R. 69 E.; (41 degrees, 28 minutes, 07 seconds north latitude and 114 degrees, 12 minutes, 07 seconds west longitude.)

Range in Characteristics:

Soil moisture: Saturated during spring and early summer with the water table at depths below 40 inches during the remainder of the year, unless drained.
Soil temperature: 49 to 53 degrees F.
Control section:
Clay content--25 to 35 percent.
Texture--Stratified silt loam to silty clay loam with strata of clay or silty clay in some pedons.
Depth to buried A horizon--30 to 55 inches. Some pedons lack buried A horizons.
Calcium carbonate equivalent--3 to 12 percent throughout the profile and is strongly effervescent or violently effervescent.

A horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 3 through 5 moist.
Chroma--1 through 3.
Reaction--Moderately alkaline or very strongly alkaline; buried A horizons are moderately alkaline or strongly alkaline.

C horizons:
Hue--10YR to 5Y.
Value--6 through 8 dry, 3 through 6 moist.
Chroma--1 or 2. Subhorizons in some pedons have chroma of 3.
Structure--Platy or subangular blocky or the horizon is massive.
Reaction--Moderately alkaline through very strongly alkaline.
Other features--Fresh-water crustacean shells and 1/4 to 1/2 inch diameter lime concretions in most pedons.

Soughe Series

The Soughe series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Soughe soils are on pediments and hills. Slopes are 2 to 50 percent. Mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic Lithic Xerollic Haplargids

Typical pedon: Soughe very gravelly coarse sandy loam, 2 to 8 percent slopes, is located in an area of map unit 252. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles and 5 percent cobbles.
A--0 to 4 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, dark brown (10YR 4/3) moist; moderate medium platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine vesicular pores; 35 percent pebbles; slightly alkaline (pH 7.8); abrupt smooth boundary.
Bt1--4 to 8 inches; pale brown (10YR 6/3) very gravelly clay loam, dark brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine tubular pores; common thin clay films bridging mineral grains; 50 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.
Bt2--8 to 11 inches; pale brown (10YR 6/3) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak very fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; common thin clay films on faces of peds and as colloid stains; 50 percent pebbles; moderately alkaline (pH 8.2); abrupt wavy boundary.
R--11 inches; welded tuff.

Type location: Elko County, Nevada; approximately 1/2 mile east of Jackpot; about 1,500 feet north and 500 feet west of the southeast corner of section 1, T. 47 N., R. 64 E.; (41 degrees, 59 minutes, 22 seconds north latitude and 114 degrees, 39 minutes, 19 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry mid-June through October.
Soil temperature: 47 to 50 degrees.
Depth to bedrock: 10 to 20 inches.
Control section:
Clay content--25 to 35 percent.

Rock fragments--35 to 60 percent, mainly pebbles with 0 to 10 percent cobbles.
Reaction--Neutral to moderately alkaline.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.

Bt horizons:
Value--4 through 6 dry, 3 or 4 moist.
Chroma--3 or 4.
Texture--Very gravelly clay loam, very gravelly sandy clay loam, or very gravelly loam.
Structure--Weak to strong, very fine to very coarse subangular blocky or moderate to strong, medium angular blocky.

Stampede Series

The Stampede series consists of well drained soils that are moderately deep to an indurated duripan. These soils formed in alluvium derived from mixed rocks. Stampede soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine, montmorillonitic, frigid Aridic Durixerolls

Typical pedon: Stampede gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 1140. (Colors are for dry soils unless otherwise noted.) The soil surface is partially covered with 5 percent pebbles.

A1--0 to 2 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; strong thick platy structure parting to moderate very thin platy; hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 15 percent pebbles; neutral (pH 6.8); abrupt smooth boundary.
A2--2 to 5 inches; dark grayish brown (10YR 4/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; strong very thin platy structure; hard, very friable, moderately sticky and moderately plastic; common very fine and medium roots; many very fine interstitial pores; 5 percent pebbles; neutral (pH 7.3); abrupt smooth boundary.
Bt1--5 to 12 inches; brown (10YR 5/3) clay, very dark grayish brown (10YR 3/2) moist; moderate medium prismatic structure; hard, firm, very sticky and very plastic; common very fine and medium exped roots; few very fine interstitial pores; many moderately thick clay films on faces of peds; 5 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.
Bt2--12 to 27 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; strong medium prismatic structure; very hard, firm, very sticky and very plastic; common very fine, few fine, and medium roots; continuous pressure faces; 5 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.
2Bqkm--27 to 60 inches; continuous indurated duripan with 1/2 to 2 millimeters continuous laminar caps throughout the horizon; 5 percent pebbles and 20 percent cobbles.

Type location: Elko County, Nevada; approximately 12 miles north of Wells in Hunter Draw; about 680 feet west and 2,400 feet south of the northeast of section 27, T. 39 N., R. 63 E.; (41 degrees, 14 minutes, 12 seconds north latitude and 114 degrees, 49 minutes, 54 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry July to October.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 13 inches, may include upper of Bt horizon of some pedons.
Depth to duripan: 20 to 37 inches.
Control section:
Clay content--40 to 55 percent.
Rock fragments--0 to 10 percent pebbles.

A horizon:
Value--4 or 5 dry, 2 or 3 moist. (6 dry and 4 moist common in the lower subhorizon).
Chroma--2 or 3.
Reaction--Slightly acid or neutral.

Bt horizons:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 through 5 moist.
Chroma--2 through 4.
Rock fragments--Up to 15 percent in any one horizon.

Structure--Moderate or strong medium or coarse prismatic or fine to coarse subangular or angular blocky.
Reaction--Neutral to slightly alkaline.

Bqkm horizon:
Reaction--Slightly alkaline or moderately alkaline.
Other features--Noneffervescent to strongly effervescent in the matrix but contains few to many lime coatings on the surface or in fractures.

Sumine Series

The Sumine series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks. The Sumine soils are on hills and mountains. Slopes are 15 to 75 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Aridic Argixerolls

Typical pedon: Sumine very gravelly loam, 15 to 30 percent slopes, is located in an area of map unit 757. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 60 percent pebbles.

A1--0 to 4 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 45 percent pebbles; neutral (pH 7.2); clear wavy boundary.
A2--4 to 9 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, few fine, and coarse roots; many very fine and common fine tubular pores; 35 percent pebbles; neutral (pH 7.2); clear wavy boundary.
Bt1--9 to 13 inches; grayish brown (10YR 5/2) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and few coarse roots; many very fine and common fine tubular pores; few thin clay films lining tubular pores and on faces of peds; 40 percent pebbles; neutral (pH 7.3); clear wavy boundary.
Bt2--13 to 20 inches; light brownish gray (10YR 6/2) very gravelly clay loam, brown (10YR 4/3) moist; strong medium subangular block structure; hard, firm, sticky and plastic; common very fine and few fine roots; many very fine and common fine tubular pores; common moderately thick clay films lining pores and on faces of peds; 45 percent pebbles; neutral (pH 7.2); clear wavy boundary.
Bt3--20 to 26 inches; light yellowish brown (10YR 6/4) very gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine and few fine tubular pores; common moderately thick clay films lining pores and on faces of peds; 45 percent pebbles and 5 percent cobbles; neutral (pH 7.2); abrupt wavy boundary.
R--26 inches; hard, fractured black chert.

Type location: Elko County, Nevada; approximately 21 miles north of Wells; about 400 feet west of the northeast corner of section 31, T. 41 N., R. 62 E.; (41 degrees, 24 minutes, 24 seconds north latitude and 114 degrees, 59 minutes, 33 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from early July through mid-October.
Soil temperature: 42 to 47 degrees F.
Mollic epipedon thickness: 8 to 17 inches thick.
Depth to bedrock: 20 to 40 inches.
Combined thickness of the A and Bt horizons: 20 to 40 inches.
Control section:
Clay content--25 to 35 percent, when mixed.
Reaction--Neutral or slightly alkaline.
Rock fragments--35 to 60 percent, when averaged.

A horizons:
Chroma--2 or 3.

Bt horizons:
Hue--10YR or 7.5YR.

Value--4 through 6 dry, 2 through 4 moist.
Chroma--2 through 4.
Structure--Weak to strong, very fine to medium angular or subangular blocky structure. The lower Bt horizons may be massive.

Tecomar Series

The Tecomar series consists of shallow, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. Tecomar soils are on mountains and hills. Slopes are 8 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xerollic Calciorthids

Typical pedon: Tecomar extremely stony silt loam, 15 to 50 percent slopes, is located in an area of map unit 3013. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 25 percent pebbles and 15 percent cobbles.

A1--0 to 2 inches; light gray (10YR 7/2) extremely stony silt loam, brown (10YR 5/3) moist; weak thick platy structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and fine roots; few very fine tubular and many very fine interstitial pores; 30 percent pebbles, 5 percent cobbles and 30 percent stones; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
A2--2 to 7 inches; pale brown (10YR 6/3) extremely cobbly silt loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine and fine roots; few very fine tubular and many very fine interstitial pores; thin lime coats on undersides of rock fragments; 40 percent pebbles, 25 percent cobbles and 10 percent stones; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
Bk1--7 to 15 inches; pale brown (10YR 6/3) extremely cobbly silt loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine, common fine, and few medium roots; common very fine tubular and many very fine interstitial pores; thin lime coats on rock fragment surfaces and common thin lime pendants on undersides of rock fragments; 40 percent pebbles, 25 percent cobbles, and 10 percent stones; violently effervescent; strongly alkaline (pH 9.0) abrupt smooth boundary.
Bk2--15 to 19 inches; very pale brown (10YR 8/3) extremely cobbly silt loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine, few fine and medium roots; common very fine tubular and many very fine interstitial pores; thin lime coats on rock fragments surfaces and common thin lime pendants on undersides of rock fragments; 40 percent pebbles, 25 percent cobbles and 10 percent stones; violently effervescent; strongly alkaline (pH 9.0); abrupt smooth boundary.
R--19 inches; limestone.

Type location: Elko County, Nevada; approximately 10 miles south of Montello; about 500 feet east and 1,250 feet south of the northwest corner of section 34 T. 38 N., R. 68 E.; (41 degrees, 08 minutes, 11 seconds north latitude and 114 degrees, 16 minutes, 19 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June through October.
Soil temperature: 47 to 52 degrees F.
Depth to bedrock: 10 to 20 inches.
Depth to calcic horizon: 4 to 14 inches.
Control section:
Clay content--20 to 27 percent.
Reaction--Moderately alkaline or strongly alkaline.
Calcium carbonate equivalent--40 to 60 percent by weight of the less than 20 millimeters fraction.
Rock fragments--50 to 80 percent, mainly pebbles, cobbles and some stones.

A horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

Bk horizons:
Value--6 through 8 dry, 4 through 7 moist.
Chroma--3 or 4.

Toano Series

The Toano series consists of very deep, well drained soils that formed in silty alluvium from mainly calcareous sedimentary rocks with a component of loess and volcanic ash. The Toano soils are on fan skirts, inset fans, inset fan remnants and stream terrace. Slopes are 0 to 8 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 47 degrees. F.

Taxonomic class: Coarse-silty, mixed (calcareous), mesic Typic Torriorthents

Typical pedon: Toano silt loam, 2 to 4 percent slopes, is located in an area of map unit 2080. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; moderate thick platy structure; hard, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; many very fine, fine interstitial and common very fine vesicular pores; 2 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2--3 to 5 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and few medium roots; many very fine interstitial, common very fine and fine tubular pores; 2 percent pebbles, violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bw--5 to 21 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and common medium roots; many very fine interstitial, common very fine and fine tubular pores; thin lime coats on undersides of rock fragments; 2 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

C1--21 to 31 inches; light gray (2.5Y 7/2) silt loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine interstitial pores; violently effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

C2--31 to 39 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine interstitial pores; 3 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

C3--39 to 60 inches; light gray (2.5Y 7/2) very fine sandy loam, grayish brown (2.5Y 5/2) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial, few very fine and fine tubular pores; 3 percent pebbles; violently effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada; approximately 9 miles northeast of Montello; about 4,500 feet east and 2,000 feet north of the southwest corner of section 21, T. 40 N., R. 70 E.; (41 degrees, 20 minutes, 03 seconds north latitude and 114 degrees, 02 minutes, 41 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry; moist for short periods in winter and spring, dry late May through November.

Soil temperature: 53 to 59 degrees F.

Control section:

Clay content--8 to 15 percent.

Rock fragments--Less than 5 percent in any subhorizon.

Reaction--Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent--10 to 30 percent.

A horizons:

Hue--2.5Y or 10YR.

Value--6 or 7 dry, 4 or 5 moist.

Chroma--2 or 3.

Effervescence--Strongly effervescent or violently effervescent.

Bw horizon:

Hue--2.5Y or 10YR.

Value--6 or 7 dry, 4 through 6 moist.

Chroma--2 or 3.

Texture--Silt loam or very fine sandy loam.

C horizons:
Hue--2.5Y or 10YR.
Value--6 through 8 dry, 4 through 6 moist.
Chroma--2 or 3.
Texture--Silt loam or very fine sandy loam.
Other features--Some pedons have stratified extremely gravelly sandy loam to extremely gravelly sand below 40 inches.

Tomsherry Series

The Tomsherry series consists of moderately deep to duripan, well drained soils that formed in alluvium derived from volcanic ash. Tomsherry soils are on plateaus. Slopes are 4 to 15 percent. The mean annual precipitation is about 12 inches, and the mean annual temperature is about 43 degrees F.

Taxonomic class: Ashy, frigid Xeric Durandepts

Typical pedon: Tomsherry fine sandy loam, 4 to 15 percent slopes, is located in an area of map unit 990. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; grayish brown (10YR 5/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, nonsticky and slightly plastic; many very fine and common fine roots; many very fine tubular pores; neutral (pH 7.2); clear smooth boundary.

AB--3 to 10 inches; brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; weak thick platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and few medium and coarse roots; common very fine and fine tubular pores; slightly alkaline (pH 7.8); clear smooth boundary.

Bk--10 to 20 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak thick platy structure parting to moderate medium subangular blocky; hard, friable, nonsticky and slightly plastic; common very fine, fine, and few medium roots; common very fine and fine tubular pores; 20 percent hard (dry) and friable (moist) nodules; few fine lime threads and soft lime masses; common moderately thick lime coats on the undersides of pebbles; 5 percent pebbles; moderately alkaline (pH 7.9); abrupt smooth boundary.

Bqkm1--20 to 26 inches; pale brown (10YR 6/3) fractured lime and silica indurated duripan, brown (10YR 4/3) moist; strong very thick platy structure; very rigid; common very fine and fine roots along horizontal fractures between plates; few very fine tubular pores; thin and moderately thick lime coats along plates and common moderately thick lime coats on undersides of pebbles; common fine threads and soft lime masses; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bqkm2--26 to 33 inches; light gray (10YR 7/2) fractured lime and silica indurated duripan, pale brown (10YR 6/3) moist; strong very thick platy structure; very rigid; common very fine and fine roots along horizontal fractures between plates; few very fine tubular pores; moderate thick and thick lime coats along plates and common moderately thick lime coats on undersides of pebbles; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C1--33 to 48 inches; light gray (10YR 7/2) loamy fine sand, pale brown (10YR 6/3) moist; weak medium platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine and fine tubular pores; common fine and medium threads and soft lime masses; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C2--48 to 60 inches; light gray (10YR 7/2) loamy fine sand, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; common fine and medium threads and soft lime masses; violently effervescent; moderately alkaline (pH 8.2).

Type location: Elko County, Nevada; approximately 7 miles south of the junction of Nevada, Utah, and Idaho state boundaries; about 2,000 feet east and 2,000 feet north of the southwest corner of section 8, T. 46 N., R. 70 E.; (41 degrees, 53 minutes, 19 seconds north latitude and 114 degrees, 02 minutes, 44 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry late June through October.

Soil temperature: 43 to 47 degrees F.
Depth to duripan: 20 to 40 inches.
Mollic epipedon thickness: 7 to 11 inches.
Control section:
Clay content--5 to 15 percent.
Rock fragments--0 to 10 percent pebbles.

A horizons:
Chroma--2 or 3.

Bk horizon:
Value--6 through 8 dry, 4 through 6 moist.
Chroma--2 or 3
Structure--Weak or moderate platy, subangular blocky or it is massive.
Calcium carbonate equivalent--15 to 25 percent.

2C horizons:
Value--6 through 8 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture--Fine sandy loam through loamy sand.
Coarse fragments--0 to 15 percent gravel.
Reaction--Moderately alkaline to strongly alkaline.

Trinidad Series

The Trinidad series consists of shallow, well drained soils that formed in residuum derived from sedimentary rocks. The Trinidad soils are on hills. Slopes are 2 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy, carbonatic, frigid, shallow Xeric Torriorthents

Typical pedon: Trinidad gravelly silt loam, 15 to 50 percent slopes, is located in an area of map unit 961. (Colors are for dry soil unless otherwise noted.)

A--0 to 2 inches; light gray (10YR 7/2) gravelly silt loam, brown (10YR 5/3) moist; moderate very thick platy structure parting to moderate very thin and thin platy; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine, fine, and few medium vesicular pores; many lime pendants on pebbles; 30 percent pebbles; 30 percent very fine and fine subangular blocky rock structure; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

C1--2 to 8 inches; pale brown (10YR 6/3) gravelly silt loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine and fine tubular pores; many lime pendants on pebbles; 15 percent pebbles; 30 percent very fine and fine subangular blocky rock structure; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

C2--8 to 13 inches; light gray (10YR 7/2) gravelly silt loam, pale brown (10YR 6/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine tubular pores; many lime pendants on pebbles; 15 percent pebbles and 5 percent cobbles; 30 percent very fine to fine subangular blocky rock structure; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Cr--13 to 21 inches; very pale brown (10YR 7/3) soft limestone, pale brown (10YR 6/3) moist; slightly hard, firm; common very fine and fine roots along weak fractures; violently effervescent; abrupt wavy boundary.

R--21 inches; hard limestone with few very fine roots in fractures; strongly effervescent.

Type location: Elko County, Nevada; approximately 12 miles east of the Gilmer Ranch; approximately 1,000 feet south of the northeast corner of section 31, T. 44 N., R. 62 E.; (41 degrees, 40 minutes, 02 seconds north latitude and 114 degrees, 59 minutes, 26 seconds west longitude.)

Range in Characteristics:

Soil moisture: These soils are moist in winter and spring, dry June through early November.
Soil temperature: 45 to 47 degrees F.
Organic carbon: Averages 1.5 to 2.4 percent throughout the whole soil.
Depth to paralithic contact: 6 to 14 inches.
Depth to hard bedrock: 20 to 30 inches.
Control section:
Percent clay--Averages 18 to 27 percent.
Calcium carbonate equivalent--40 to 80 percent for the less than 20 millimeters fraction.
Secondary carbonates--Most pebbles have lime pendants.

Rock fragments--15 to 35 percent, mostly pebbles.

A horizons:
Value--5 through 7 dry, 4 or 5 moist.

C horizon:
Value--5 through 7 dry, 4 through 6 moist.
Chroma--2 or 3.
Structure--Weak to moderate subangular blocky or is massive.

Tulase Series

The Tulase series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Tulase soils are on inset fans. Slopes are 0 to 4 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Coarse-silty, mixed (calcareous), mesic, Durorthidic Xeric Torriorthents

Typical pedon: Tulase very fine sandy loam, 0 to 2 percent slopes, is located in an area of map unit 2081. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; light brownish gray (10YR 6/2) very fine sandy loam, dark brown (10YR 3/3) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.3); abrupt smooth boundary.

A2--2 to 6 inches; pale brown (10YR 6/3) very fine sandy loam, brown (10YR 4/3) moist; strong thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

C1--6 to 14 inches; pale brown (10YR 6/3) very fine sandy loam, brown (10YR 4/3) moist; moderate coarse prismatic structure parting to weak thin platy; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

C2--14 to 18 inches; pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; few fine lime filaments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Ck--18 to 28 inches; pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; common fine lime filaments; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

2Cqk--28 to 35 inches; light gray (10YR 7/2) very fine sandy loam, pale brown (10YR 6/3) moist; massive; soft, very friable, nonsticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 25 percent, 10 to 25 millimeter weak durinodes; common fine lime filaments; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

2C'k--35 to 38 inches; white (10YR 8/2) very fine sandy loam, volcanic ash, light gray (10YR 7/2) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; common fine lime filaments; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

3C'qk--38 to 47 inches; pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; common fine distinct strong brown (7.5YR 5/6) mottles, dark brown (7.5YR 4/4) moist; weak thin platy structure; hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 20 percent 10 to 25 millimeters weak durinodes with 50 percent discontinuous weak lime and silica cementation; many fine and medium lime filaments and seams; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

4C'k--47 to 60 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 5/3) moist; many fine distinct strong brown (7.5YR 5/6) mottles, dark brown (7.5YR 4/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots;

common very fine tubular pores; many fine and medium lime filaments, seams, and soft masses; common thin lime coats undersides of pebbles; 45 percent pebbles; violently effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 26 miles northeast of Wells; about 3,240 feet west and 500 feet south of the northeast corner of section 24, T. 40 N., R. 65 E.; (41 degrees, 20 minutes, 23 seconds north latitude and 114 degrees, 34 minutes, 08 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry late June through October.
Soil temperature: 47 to 52 degrees F.
Depth to Cq or Cqk horizon: 11 to 30 inches.

A horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

C horizons:
Value--6 or 7 dry, 4 or 5 moist.
Structure--Platy or prismatic.

Cq, Cqk horizons:
Texture--Silt loam or very fine sandy loam.
Silica cementation--20 to 50 percent durinodes. Up to 50 percent discontinuous silica-lime cementation is common in most Cqk horizons.
Value--6 through 8 dry, 5 through 7 moist.
Chroma--2 through 4.
Structure--Massive, subangular blocky, or platy.

Tusel Series

The Tusel series consists of deep, well drained soils that formed in residuum and colluvium derived from mixed rocks, loess, and volcanic ash. Tusel soils are on hills and mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 17 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed Argic Pachic Cryoborolls

Typical pedon: Tusel very cobbly loam, 15 to 50 percent slopes, is located in an area of map unit 570. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent pebbles, 35 percent cobbles, and 10 percent stones.

A1--0 to 3 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial and few fine tubular pores; 10 percent pebbles, 25 percent cobbles, and 5 percent stones; neutral (pH 6.8); clear wavy boundary.
A2--3 to 11 inches; dark brown (10YR 4/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; many very fine and few fine tubular pores; 10 percent pebbles, 30 percent cobbles, and 10 percent stones; neutral (pH 6.8); clear wavy boundary.
2Bt1--11 to 20 inches; brown (10YR 5/3) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and moderately plastic; many very fine and common fine roots; many fine, common medium, and very fine tubular pores; few thin clay films on faces of peds and lining pores; 45 percent pebbles and 10 percent cobbles; neutral (pH 6.6); clear wavy boundary.
2Bt2--20 to 45 inches; light yellowish brown (10YR 6/4) extremely gravelly clay loam, dark brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and lining pores; 40 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.6); abrupt irregular boundary.
3R--45 inches; quartzite.

Type location: Elko County, Nevada; approximately 22 miles north of Wells; about 500 feet east and 2,000 feet north of the southwest corner

of section 21, T. 41 N., R. 62 E.; (41 degrees, 25 minutes, 38 seconds north latitude and 114 degrees, 58 minutes, 13 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist in the late fall through early summer, dry late July through September.
Soil temperature: 43 to 47 degrees F.
Average summer soil temperature: 58 to 59 degrees F.
Mollic epipedon thickness: 16 to 22 inches, includes the upper argillic horizon of some pedons.
Depth to base of Bt horizon: 36 to 50 inches.
Depth to bedrock: 40 to over 80 inches.
Control section:
Clay content--25 to 35 percent.
Reaction--Slightly acid or neutral.
Rock fragments--50 to 75 percent, mainly pebbles.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bt horizons:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--2 through 4.
Texture--Very gravelly or extremely gravelly sandy clay loam or very gravelly or extremely gravelly clay loam, with 40 to 60 percent sand.
Clay content--25 to 35 percent, when averaged.
Rock fragments--40 to 60 percent pebbles and 10 to 25 percent cobbles and 0 to 10 percent stones.
Structure--Weak to moderate subangular blocky.

Tweener Series

The Tweener series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from mixed rocks. The Tweener soils are on hills and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Argixerolls

Typical pedon: Tweener very gravelly loam, 4 to 15 percent slopes, is located in an area of map unit 1191. (Colors are for dry soils unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles and 5 percent cobbles.

A1--0 to 3 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine tubular pores; 30 percent pebbles and 5 percent cobbles; neutral (pH 6.8); clear smooth boundary.
A2--3 to 6 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, few medium, and coarse roots; many very fine and common fine tubular pores; 30 percent pebbles and 10 percent cobbles; neutral (pH 7.2); clear smooth boundary.
Bt--6 to 10 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderately fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; common moderately thick clay films on faces of peds, lining pores and bridging mineral grains; 15 percent pebbles, 40 percent cobbles; neutral (pH 7.2); abrupt wavy boundary.
R--10 inches; fractured welded tuffs.

Type location: Elko County, Nevada; approximately 6 miles south of the Gilmer Ranch; about 200 feet west and 4,200 feet south of the northeast corner of section 7, T. 43 N., R. 61 E.; (41 degrees, 37 minutes, 40 seconds north latitude and 115 degrees, 06 minutes, 29 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from late July through October for 70 to 100 days.
Soil temperature: 44 to 47 degrees F.
Mollic epipedon thickness: 7 to 14 inches and

includes all of the argillic horizon.
Depth to bedrock: 7 to 14 inches.
Control section:
Clay content--18 to 35 percent.
Rock fragments--35 to 60 percent, mainly cobbles and stones.

A horizons:
Value--4 or 5 dry; 2 or 3 moist.

Bt horizon:
Value--4 or 5 dry; 2 or 3 moist.
Chroma--2 or 3.
Texture--Very cobbly clay loam or very cobbly loam.
Clay content--25 to 40 percent.

Vadaho Series

The Vadaho series consists of shallow, well drained soils that formed in loess and volcanic ash over alluvium mixed rocks. The Vadaho soils are on fan remnants. Slopes are 2 to 30 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Orthidic Durixerolls

Typical pedon: Vadaho silt loam, 2 to 8 percent slopes, is located in an area of map unit 620. (Colors are for dry soils unless otherwise noted)

A--0 to 6 inches; brown (10YR 5/3) silt loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine, fine, medium and coarse roots; few very fine tubular and common very fine interstitial pores; 5 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bq--6 to 13 inches; brown (10YR 5/3) silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; very hard, friable, moderately sticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; 20 percent weak durinodes; 5 percent pebbles; continuous weak brittle matrix; slightly alkaline (pH 7.8); clear smooth boundary.

Bqk--13 to 18 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; very hard, firm, moderately sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 30 percent weak durinodes; 5 percent pebbles; continuous weak brittle matrix; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqkm--18 to 19 inches; indurated duripan with a continuous 1 to 2 millimeter thick silica laminae; violently effervescent; clear wavy boundary.

2Cqk--19 to 26 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; massive; hard, firm, moderately sticky and slightly plastic; few very fine roots; few very fine tubular pores; 5 percent weak durinodes; 10 percent pebble size duripan fragments; continuous weak brittle matrix; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Cqkm--26 to 38 inches; indurated duripan with a continuous 2 to 7 millimeter thick silica laminae; violently effervescent; abrupt wavy boundary.

3C'qk--38 to 60 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine tubular pores; moderately thick lime coats on pebbles; 50 percent pebbles; continuous brittle matrix; violently effervescent; moderately alkaline (pH 8.4)

Type location: Elko County, Nevada; approximately 9 miles east of Jackpot; about 1,000 feet east and 2,000 feet south of the northwest corner of section 20, T. 47 N., R. 66 E.; (41 degrees, 57 minutes, 01 seconds north latitude and 114 degrees, 30 minutes, 32 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and early spring, dry late June through October.
Soil temperature: 47 to 52 degrees F.
Depth to duripan: 14 to 20 inches.
Mollic epipedon thickness: 7 to 14 inches.
Control section:
Percent clay--Averages 20 to 27 percent.

Rock fragments--Averages 5 to 15 percent, mainly pebbles.

A horizon:
Chroma--2 or 3.

Bq horizon:
Chroma--2 or 3.
Texture--Loam or silt loam.
Durinodes--5 to 40 percent.

Bqk horizon:
Value--5 or 6 dry.
Chroma--2 through 4.
Texture--Loam or silt loam.
Durinodes--5 to 40 percent.
Effervescence--Strongly effervescent to violently effervescent.

2Cqk horizon:
Durinodes--5 to 40 percent.
Duripan fragments--5 to 25 percent, mostly pebble size.

3Cqk horizon:
Value--6 or 7 dry, 3 or 4 moist.
Rock fragments--40 to 60 percent, mainly pebbles.

Valmy Series

The Valmy series consists of very deep, well drained soils that formed in loess and volcanic ash over alluvium derived from mixed rocks. The Valmy soils are on stream terraces and fan skirts. Slopes are 0 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Durorthidic Torriorthents

Typical pedon: Valmy fine sandy loam, 2 to 8 percent slopes, is located in an area of map unit 340. (Colors are for dry soil unless otherwise noted.)

A--0 to 2 inches; light brownish gray (10YR 6/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate, medium and thick platy structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; common very fine vesicular and many very fine interstitial pores; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C--2 to 6 inches; pale brown (10YR 6/3) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak thin and medium platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine, fine, and few medium roots; few very fine tubular and many very fine interstitial pores; 5 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); gradual smooth boundary.

Cqk1--6 to 15 inches; pale brown (10YR 6/3) fine sandy loam, grayish brown (10YR 5/2) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; many very fine, fine, and few medium roots; common very fine tubular and many very fine interstitial pores; 10 percent weak durinodes; 5 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); gradual smooth boundary.

Cqk2--15 to 38 inches; pale brown (10YR 6/3) stratified sandy loam and fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; many very fine, fine, and few medium roots; common fine tubular and many very fine interstitial pores; 35 percent weak to hard durinodes; 30 percent discontinuous weakly cemented matrix; 5 percent pebbles; violently effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Cq--38 to 60 inches; pale brown (10YR 6/3) fine sandy loam, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and slightly plastic; few fine roots; common very fine, fine tubular, and many very fine interstitial pores; 5 percent weak durinodes; 2 percent pebbles; violently effervescent; very strongly alkaline (pH 9.2).

Type location: Elko County, Nevada; approximately 10 miles south of Jackpot; about 1,500 feet east and 2,000 feet north of the southwest corner of section 3, T. 45 N., R. 64 E.; (41 degrees, 48 minutes, 55 seconds north latitude and 114 degrees, 42 minutes, 54 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, November through May.
Soil temperature: 47 to 52 degrees F.

Depth to Cq horizon: 6 to 20 inches.
Control section:
Percent clay--5 to 15.
Rock fragments--Averages 0 to 15 percent pebbles; some pedons may have up to 35 percent pebbles in thin horizon.
Effervescence--Noneffervescent to violently effervescent in the upper 10 inches, slightly effervescent to violently effervescent below 10 inches.

A horizon:
Hue--10YR or 2.5Y.
Value--5 or 6 dry, 3 or 4 moist.
Reaction--Moderately alkaline or strongly alkaline.

C horizons:
Hue--10YR or 2.5Y.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Mainly fine sandy loam or sandy loam, but includes strata of very fine sandy loam or coarse sandy loam in some pedons.
Consistence--Slightly hard or hard dry, very friable or friable moist.
Reaction--Strongly alkaline to very strongly alkaline.
Other features--Durinodes range from 5 to 85 percent by volume in any one horizon but one or more horizons more than 6 inches thick contain more than 35 percent durinodes that are hard to extremely hard, firm to very firm and brittle.

Vanwyper Series

The Vanwyper series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks. Vanwyper soils are on hills and mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Clayey-skeletal, montmorillonitic, mesic Xerollic Haplargids

Typical pedon: Vanwyper very stony loam, 15 to 50 percent slopes, is located in an area of map unit 020. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles, 10 percent cobbles, and 10 percent stones.

A1--0 to 2 inches; light grayish brown (10YR 6/2) very stony loam, dark grayish brown (10YR 4/2) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and common fine vesicular pores; 30 percent pebbles, 5 percent cobbles, and 10 percent stones; neutral (pH 6.8); abrupt wavy boundary.

A2--2 to 7 inches; light grayish brown (10YR 6/2) very cobbly 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 roots; many very fine and few fine tubular pores; 30 percent pebbles, 10 percent cobbles, and 5 percent stones; neutral (pH 6.8); clear wavy boundary.

Bt1--7 to 15 inches; brown (10YR 5/3) very cobbly clay, dark brown (10YR 4/3) moist; moderate fine and medium angular blocky structure; very hard, firm, very sticky and very plastic; common very fine roots; common very fine and few fine tubular pores; common moderately thick clay films on faces of peds and lining pores; 30 percent pebbles, 15 percent cobbles, and 5 percent stones; neutral (pH 7.0); clear wavy boundary.

Bt2--15 to 35 inches; brown (10YR 5/3) very cobbly clay, dark yellowish brown (10YR 4/4) moist; moderate fine and medium angular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; common very fine and few fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 30 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 6.8); abrupt wavy boundary.

R--35 inches; fractured quartzite and conglomerate with some clay material between cracks.

Type location: Elko County, Nevada; about 22 miles north of Wells, in the Tabor Creek drainage; 1,200 feet north and 2,300 feet west of the southeast corner of section 16, T. 41 N., R. 61 E.; (41 degrees, 26 minutes, 23 seconds north latitude and 115 degrees, 04 minutes, 37 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from late June through mid October.
Soil temperature: 47 to 50 degrees F.
Depth to bedrock: 20 to 40 inches.
Control section:
Percent clay--35 to 55 percent.
Rock fragments--35 to 60 percent dominated by cobbles.
Reaction--Neutral or slightly alkaline.

A horizons:
Value--3 or 4 moist.
Chroma--2 or 3.

Bt horizons:
Hue--10YR or 7.5YR.
Value--4 through 6 dry, 3 through 5 moist.
Chroma--3 or 4.
Texture--Very cobbly clay loam and very cobbly clay.
Structure--Angular or subangular blocky in the upper part, prismatic in the lower part.
Other features--Some pedons have a thin coat of carbonates on the undersides of rock fragments.

Vitale Series

The Vitale series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from volcanic rocks and sandstone. Vitale soils are on hills and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is about 41 degrees F.

Taxonomic class: Loamy-skeletal, mixed, frigid Typic Argixerolls

Typical pedon: Vitale very gravelly loam, 4 to 15 percent slope is located in an area of map unit 742. (Colors are for dry soils unless otherwise noted.)

A--0 to 5 inches; brown (10YR 4/3) very gravelly loam; very dark brown (10YR 2/2) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and few medium roots; many very fine tubular pores; 35 percent pebbles and 5 percent cobbles; neutral (pH 6.8); clear smooth boundary.
Bt1--5 to 12 inches; brown (10YR 5/3) very gravelly clay loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine and fine tubular pores; common thin clay films on mineral grains; 50 percent pebbles and 5 percent cobbles; neutral (pH 6.8); clear smooth boundary.
Bt2--12 to 21 inches; pale brown (10YR 6/3) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; massive; hard, firm, moderately sticky and moderately plastic; many very fine, fine, and few medium roots; common very fine interstitial pores; common moderately thick clay films on mineral grains; 50 percent pebbles, 5 percent cobbles; neutral (pH 6.8); abrupt wavy boundary.
R--21 inches; welded tuff rock.

Type location: Elko County, Nevada; approximately 12 miles southwest of Jackpot; about 750 feet east and 2,500 feet north of the southwest corner of section 30, T. 46 N., R. 61 E.; (41 degrees, 50 minutes, 48 seconds north latitude and 115 degrees, 07 minutes, 12 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry in late summer.
Soil temperature: 40 to 44 degrees F.
Thickness of mollic epipedon: 10 to 17 inches.
Depth to bedrock: 20 to 40 inches.

A horizon:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--1 through 3 moist or dry.

Bt horizons:
Hue--10YR or 7.5YR
Value--5 or 6 dry, 2 through 4 moist.
Chroma--2 or 3 moist or dry.
Clay content--28 to 35 percent
Rock fragments--35 to 60 percent.

Welch Series

The Welch series consists of very deep, poorly drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. Welch soils are on flood plains. Slopes are 0 to 4 percent. Mean annual precipitation is about 14 inches, and mean annual temperature is about 42 degrees F.

Taxonomic class: Fine-loamy, mixed, frigid Cumulic Haplaquolls

Typical pedon: Welch loam, drained, nonflooded, 0 to 2 percent slopes, is located in an area of map unit 034. (Colors for dry soils unless otherwise noted).

A1--0 to 5 inches; dark gray (10YR 4/1) loam, black (10YR 2/1) moist; weak fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine and fine tubular pores; neutral (pH 7.3); clear wavy boundary.

A2--5 to 14 inches; gray (10YR 5/1) loam, very dark gray (10YR 3/1) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; common very fine and fine tubular pores; neutral (pH 7.3); clear wavy boundary.

A3--14 to 32 inches; gray (10YR 5/1) clay loam, very dark gray (10YR 3/1) moist; few fine distinct dark yellowish brown (10YR 4/4) mottles; weak coarse subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; common very fine and few medium roots; many very fine, fine, and few medium tubular pores; slightly alkaline (pH 7.6); clear wavy boundary.

C--32 to 38 inches; light brownish gray (10YR 6/2) clay loam, dark grayish brown (10YR 4/2) moist; common fine distinct dark yellowish brown (10YR 4/4) mottles; massive; very hard, friable, moderately sticky and moderately plastic; few very fine roots; many fine, common very fine and few medium tubular pores; slightly alkaline (pH 7.6); abrupt wavy boundary.

Ab--38 to 44 inches; gray (10YR 5/1) fine sandy loam, very dark gray (10YR 3/1) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 10 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

C2--44 to 62 inches; light brownish gray (10YR 6/2) clay loam, dark grayish brown (10YR 4/2) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; many very fine, common fine and few medium tubular pores; slightly alkaline (pH 7.6).

Type location: Elko County, Nevada; approximately 22 miles north of Wells; about 700 feet west and 10 feet north of the southeast corner of section 32, T. 41 N., R. 61 E.; (41 degrees, 23 minutes, 33 seconds north latitude and 115 degrees, 05 minutes, 31 seconds west longitude.)

Range in Characteristics:

Soil moisture: Welch soils are saturated at or near the surface for a least one month during most years, mainly during the late winter and early spring months, then drops to a depth of 18 to 36 inches from early spring through September. Drained phases are recognized.

Soil temperature: 42 to 46 degrees F.

Mollic epipedon thickness: 26 to over 60 inches, organic matter decreases irregularly with increasing depth.

Mineralogy: Mixed, but the parent material has a large component of vitric pyroclastic materials.

Control section:

Clay content--27 to 35 percent, when mixed.

Other features--Buried A horizons are common. Some pedons have gravelly strata or strata of silty clay loam, silt loam, clay loam, very fine sandy loam or sandy loam.

A horizons:

Hue--10YR through 5Y or neutral.

Value--3 through 5 dry, 2 or 3 moist.

Chroma--0 through 3 in the upper part and 0 through 2 in the lower part.

Reaction--Slightly acid through slightly alkaline.

C horizons:

Hue--10YR, 5Y through 5B or neutral.

Value--5 through 8 dry, 3 through 5 moist.

Chroma--0 through 2.

Texture--Stratified dominantly sandy clay loam or clay loam.

Other features--None to many fine to coarse redox concentrations or depletions.

Wicup Series

The Wicup series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from pyroclastic and volcanic rocks. The Wicup soils are on fan remnants and hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Fine, montmorillonitic, mesic Aridic Argixerolls

Typical pedon: Wicup silty clay loam, 4 to 15 percent slopes, is located in an area of map unit 4002. (*Colors are for dry soil unless otherwise* noted.) The soil surface is partially covered with 30 percent pebbles.

A--0 to 3 inches; grayish brown (10YR 5/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and few fine inped roots; many very fine interstitial and common fine tubular pores; 7 percent pebbles; neutral (pH 6.9); abrupt smooth boundary.

Bt1--3 to 10 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; weak fine prismatic structure parting to strong fine and medium angular blocky; hard, firm, moderately sticky and moderately plastic; common very fine and few fine inped roots; many very fine interstitial pores; few thin clay films on faces of peds and lining pores; 5 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.

Bt2--10 to 13 inches; brown (10YR 5/3) silty clay, dark brown (10YR 3/3) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine and few medium exped roots; common very fine interstitial pores; common stress surfaces on faces of peds; 3 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt3--13 to 18 inches; yellowish brown (10YR 5/4) silty clay, brown (10YR 4/3) moist; strong medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine and few medium exped roots; common very fine interstitial pores; common stress surfaces on faces of peds; 5 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Btk--18 to 30 inches; pale brown (10YR 6/3) silty clay loam, yellowish brown (10YR 5/4) moist; moderate fine and medium prismatic structure; hard, firm, moderately sticky and moderately plastic; few very fine exped roots; common very fine interstitial pores; few thin clay films on faces of peds; common thin silica coats on faces of peds; common fine disseminated lime; 4 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); clear irregular boundary.

Cr--30 to 61 inches; pale brown (10YR 6/3) soft tuff, yellowish brown (10YR 5/4) moist; common large faint iron mottles; violently effervescent.

Type location: Elko County, Nevada; approximately 18 miles northeast of Wells in an unsurveyed area; T. 38 N., R. 65 E.; (41 degrees, 12 minutes, 17 seconds north latitude and 114 degrees, 39 minutes, 50 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from late June through October.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 8 to 15 inches, includes the upper part of Bt subhorizon.

Depth to paralithic contact: 26 to 40 inches.

Depth to carbonates: 18 to 22 inches.

Control section:

Clay content--35 to 50 percent.

Rock fragments--5 to 20 percent mainly pebbles, with up to 5 percent cobbles.

Reaction--Neutral to moderately alkaline, usually increasing with depth.

A horizon:

Value--4 or 5 dry, 2 or 3 moist.

Chroma--2 or 3.

Upper Bt horizons:

Value--4 or 5 dry, 2 or 3 moist.

Chroma--2 or 3.

Texture--Clay loam, silty clay loam, silty clay, clay or gravelly clay loam.

Clay content--35 to 50 percent.

Rock fragments--5 to 25 pebbles

Structure--Weak or moderate, fine or medium, prismatic or angular blocky parting to angular or subangular blocky.

Reaction--Neutral or slightly alkaline.

Lower Bt horizons:
Hue--10YR or 7.5YR.
Value--5 through 7 dry, 4 or 5 moist.
Chroma--3 through 5.
Texture--Clay loam, silty clay loam, silty clay, clay or gravelly clay loam.
Clay content--35 to 50.
Rock fragments--5 to 25 percent pebbles.
Reaction--Slightly alkaline or moderately alkaline.
Other features--Most pedons have few to common thin silica coats on faces of peds in the subhorizon overlying the paralithic contact.

Wieland Series

The Wieland series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks, loess and volcanic ash. Wieland soils are on fan remnants. Slopes are 0 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine, montmorillonitic, mesic Durixerollic Haplargids

Typical pedon: Wieland loam, 4 to 15 percent slopes, is located in an area of map unit 094. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A--0 to 3 inches; pale brown (10YR 6/3) loam, dark brown (10YR 3/3) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine interstitial pores; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt1--3 to 8 inches; pale brown (10YR 6/3) clay loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; many very fine interstitial and few very fine tubular pores; few thin clay films on faces of peds and lining pores; 5 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Bt2--8 to 12 inches; light yellowish brown (10YR 6/4) gravelly clay, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; common very fine interstitial pores; many moderately thick clay films on faces of peds and lining pores; 15 percent pebbles; moderately alkaline (pH 7.9); clear smooth boundary.

Bt3--12 to 22 inches; light yellowish brown (10YR 6/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; weak medium prismatic parting to strong medium subangular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; few very fine interstitial pores; many stress surfaces; 20 percent pebbles; moderately alkaline (pH 7.9); clear smooth boundary.

Bqk1--22 to 28 inches; light yellowish brown (10YR 6/4) gravelly clay loam, yellowish brown (10YR 5/4) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few fine roots; few very fine interstitial pores; 25 percent, hard, firm, 10 to 20 millimeter durinodes; lime segregated into common fine filaments, undersides of pebbles have 1 to 2 millimeters thick silica and lime coatings; 20 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bqk2--28 to 44 inches; very pale brown (10YR 7/3) gravelly loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm, and brittle, nonsticky and nonplastic; discontinuous thin silica laminar caps within horizon; 25 percent pebbles; continuous brittle matix; violently effervescent; moderately alkaline (pH 8.4); gradual smooth boundary.

2Bqk--44 to 58 inches; light gray (2.5Y 7/2) stratified loam and sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine interstitial pores; many thin and medium horizontal lime seams; 15 percent hard and firm 10 millimeter durinodes; 5 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2C--58 to 64 inches; light gray (5Y 7/2) sandy loam, olive (5Y 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine and fine interstitial pores; 5 percent pebbles; slightly effervescent; slightly alkaline (pH 8.2).

Type location: Elko County, Nevada; approximately 10 miles northwest of Wells; about 2,200 feet east and 1,000 feet north of the southwest corner of section 26, T. 39 N., R. 61 E.; (41 degrees, 14 minutes, 12 seconds north latitude and 115 degrees, 03 minutes, 07 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist from late October through early June.
Soil temperature: 47 to 52 degrees F.
Depth to continuous brittle matrix: 19 to 30 inches.
Depth to base of Bt horizon: 19 to 30 inches.
Control section:
Clay content--40 to 55 percent when mixed.
Rock fragments--5 to 35 percent pebbles when mixed.
Other features--Gravelly substratum phases are recognized that have variegated colored 2C horizons with textures of very gravelly loam sand at a depth of 40 or more inches.

A horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Reaction--Slightly alkaline or moderately alkaline.

Bt1 horizon:
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Structure--Weak or moderate very fine to medium subangular blocky or prismatic.
Consistence--Very friable or friable moist, slightly sticky to very sticky and slightly plastic to very plastic wet.
Reaction--Slightly alkaline or moderately alkaline.

Other Bt horizons:
Value--5 through 7 dry, 3 through 5 moist.
Chroma--2 through 4 dry, 3 or 4 moist.
Clay content--40 to 55 percent, when mixed, some pedons have subhorizons with up to 60 percent clay.
Rock fragments--5 to 35 percent pebbles, when mixed.
Structure--Weak or moderate, fine to coarse prismatic or very fine to medium angular blocky or subangular blocky.
Other features--Some pedons are slightly effervescent to strongly effervescent and commonly have lime filaments in the lower Bt horizons.

Bqk horizons:
Hue--10YR or 2.5Y.
Value--6 through 8 dry, 4 through 6 moist.
Chroma--1 through 4.
Effervescence--Slightly effervescent through violently effervescent.
Cementation--Some pedons have thin discontinuous weakly cemented Bqk subhorizons above the continuous brittle horizon.
Relict mottles--Present in many pedons at any depth below 30 inches.

Wiffo Series

The Wiffo series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from sedimentary rocks. The Wiffo soils are on fan skirts. Slopes are 2 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed (calcareous), mesic Xeric Torriorthents

Typical pedon: Wiffo very gravelly loam, 2 to 8 percent slopes, is located in an area of map unit 1041. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 35 percent pebbles, 1 percent cobbles, and 1 percent stones.

A1--0 to 3 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; 45 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
A2--3 to 8 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and

common coarse roots; many very fine interstitial pores; thin lime coats undersides of rock fragments; 40 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2C1--8 to 27 inches; light gray (10YR 7/2) extremely gravelly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, few medium, and coarse roots; many very fine interstitial pores; thin lime coats on undersides of rock fragments; 65 percent pebbles, 5 percent cobbles and 5 percent stones; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

3C2--27 to 60 inches; light gray (10YR 7/2) stratified extremely gravelly sandy loam and very gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots in extremely gravelly coarse sand layers and common very fine roots in extremely gravelly sandy loam layers; many very fine interstitial pores; thin lime coats on undersides of rock fragments; 75 percent pebbles; violently effervescent; strongly alkaline (pH 8.8).

Type location: Elko County, Nevada; approximately 8 miles east of Montello; about 500 feet east and 700 feet north of the southwest corner of section 4, T. 39 N., R. 70 E.; (41 degrees, 17 minutes, 13 seconds north latitude and 114 degrees, 08 minutes, 29 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry June through October.
Soil temperature: 47 to 52 degrees F.
Depth to 2C horizon: 5 to 10 inches.
Depth to 3C horizon: 20 to 35 inches.
Reaction: Moderately alkaline or strongly alkaline.
Control section:
Clay content--Averages 5 to 15 percent.
Rock fragments--Averages 50 to 75 percent, mainly pebbles.
Effervescence--Strongly effervescent or violently effervescent throughout.
Calcium carbonates equivalent--Averages 15 to 25 percent.

A horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.

2C horizon:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 through 4.
Texture--Very gravelly sandy loam, extremely gravelly sandy loam.
Clay content--8 to 15 percent.
Rock fragments--50 to 75 percent, mainly pebbles.
Structure--Weak subangular blocky or it is massive.

3C horizon:
Hue--10YR or 2.5Y.
Value--7 or 8 dry, 4 through 6 moist.
Chroma--2 through 4.
Texture--Stratified extremely gravelly sandy loam to very gravelly coarse sand.
Clay content--5 to 15 percent.
Rock fragments--50 to 75 percent, mainly pebbles.
Structure--The horizon is massive, or single grain.

Wiffo Variant

The Wiffo variant consists of very deep, well drained soils formed in alluvium derived from mixed rocks. Wiffo variant soils are on alluvial fans. Slopes are 2 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic Xerollic Camborthids

Typical pedon: Wiffo variant extremely stony sandy loam, is located in an area of map unit 2010. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles, 5 percent cobbles, and 5 percent stones.

A1--0 to 2 inches; light brownish gray (10YR 6/2) extremely stony sandy loam, dark grayish brown (10YR 4/2) moist; moderate thin platy

structure; soft, very friable, nonsticky and slightly plastic; many very fine and common fine roots; many very fine and fine vesicular pores; 10 percent pebbles, 20 percent cobbles and 30 percent stones; neutral (pH 7.2); clear smooth boundary.

A2--2 to 5 inches; pale brown (10YR 6/3) extremely stony sandy loam, dark brown (10YR 4/3) moist; strong thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and few fine interstitial pores; 15 percent pebbles, 20 percent cobbles and 30 percent stones; slightly alkaline (pH 7.8); clear wavy boundary.

Bw--5 to 17 inches; pale brown (10YR 6/3) extremely stony sandy loam, dark brown (10YR 4/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; many very fine interstitial and few fine tubular pores; 10 percent pebbles, 30 percent cobbles and 30 percent stones; slightly alkaline (pH 7.6); gradual wavy boundary.

Bk1--17 to 36 inches; very pale brown (10YR 7/3) extremely stony sandy loam, dark brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; many very fine, few fine, and medium roots; few fine tubular pores; few thin lime coats on undersides of rock fragments; 10 percent pebbles, 30 percent cobbles, and 30 percent stones; strongly effervescent; moderately alkaline (pH 8.4); gradual wavy boundary.

Bk2--36 to 60 inches; very pale brown (10YR 7/3) extremely stony sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and slightly plastic; common very fine, fine, and few medium roots; many very fine interstitial pores; few thin lime coats on undersides of rock fragments; 5 percent pebbles, 30 percent cobbles and 35 percent stones; violently effervescent; strongly alkaline (pH 8.6).

Type location: Elko County, Nevada; approximately 9 miles southeast of Montello; about 1,750 feet east and 100 feet south of the northwest corner of section 29, T. 38 N., R. 70 E.; (41 degrees, 09 minutes, 12 seconds north latitude and 114 degrees, 04 minutes, 31 seconds west longitude.)

Range in Characteristics:

Soil moisture: Moist in the winter and spring, dry mid-June through October, for about 90 to 115 days following the summer solstice.
Soil temperature: 47 to 50 degrees F.
Depth to carbonates: 10 to 20 inches.
Control section:
Clay content--Averages 10 to 18 percent.
Reaction--Neutral through strongly alkaline increasing with depth.
Rock fragments--60 to 80 percent.

A horizon:
Value--5 or 6 dry, 4 or 5 moist.
Chroma--2 or 3.

Bw and Bk horizons:
Value--6 or 7 dry, 4 or 5 moist.
Chroma--3 or 4.
Rock fragments--60 to 80 percent, mainly cobbles and stones.

Xerxes Series

The Xerxes series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Xerxes soils are on plateaus and hills. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic, shallow Mollic Haploxeralfs

Typical pedon: Xerxes extremely cobbly loamy sand, 15 to 30 percent slopes, is located in an area of map unit 1203. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 45 percent pebbles and 20 percent cobbles.

A--0 to 2 inches; light brownish gray (2.5Y 6/2) extremely cobbly loamy sand, very dark grayish brown (2.5Y 3/2) moist; weak thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine, few fine interstitial and few fine tubular pores; 40 percent pebbles and 35 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt1--2 to 5 inches; light brownish gray (2.5Y 6/2) cobbly fine sandy loam, very dark grayish brown (2.5Y 3/2) moist; weak thick platy structure parting to moderate medium platy; slightly hard, very friable, slightly sticky and nonplastic; common very fine, fine, few medium and coarse roots; many very fine and fine interstitial pores; common thin clay bridges between mineral grains; 10 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt2--5 to 10 inches; light gray (10YR 7/2) very cobbly fine sandy loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure parting to moderate thin platy; slightly hard, very friable, slightly sticky and nonplastic; common very fine, fine, medium and coarse roots; many very fine interstitial, common very fine and fine tubular pores; 5 percent durinodes and 5 percent medium platelike silica concretions; common thin lime coats and few thin lime pendants on undersides of rock fragments; few thin clay films on faces of peds and common thin clay films lining pores; 15 percent pebbles, 25 percent cobbles and 5 percent stones; strongly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Cr--10 to 15 inches; strongly effervescent soft tuff.

Type location: Elko County, Nevada; approximately 24 miles southeast of Jackpot; about 1,250 feet south and 80 feet east of the northwest corner of section 26, T. 45 N., R. 67 E.; (41 degrees, 45 minutes, 52 seconds north latitude and 114 degrees, 21 minutes, 16 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry from July through September.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 8 to 14 inches.
Control section:
Clay content--8 to 15 percent.
Reaction--Slightly alkaline or moderately alkaline.
Rock fragments--Averages 35 to 50 percent, mainly pebbles and cobbles.

A horizon:
Hue--2.5Y or 10YR.
Value--5 or 6 dry.
Chroma--2 or 3.

Upper Bt horizon:
Hue--2.5Y or 10YR.
Value--5 or 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Texture--Cobbly fine sandy loam, very cobbly fine sandy loam.
Clay content--8 to 18 percent.
Rock fragments--15 to 40 percent, mainly pebbles and cobbles.
Structure--Weak or moderate, platy or subangular blocky.

Lower Bt horizons:
Hue--2.5Y or 10YR.
Value--6 or 7 dry, 4 or 5 moist.
Chroma--2 or 3.
Texture--Very cobbly fine sandy loam, very cobbly sandy loam.
Clay content--8 to 18 percent.
Rock fragments--35 to 50 percent, mainly pebbles and cobbles.
Structure--Weak or moderate, platy or subangular blocky.
Reaction--Slightly alkaline or moderately alkaline.

Xica Series

The Xica series consists of shallow, well drained soils that formed in residuum derived from granitic rocks. The Xica soils are on hills and mountains. Slopes are 4 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy, mixed, frigid, shallow Typic Argixerolls

Typical pedon: Xica sandy loam, 4 to 15 percent, is located in an area of map unit 701. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent pebbles and 5 percent with cobbles.

A--0 to 3 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine roots; many very

fine interstitial pores; 10 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1--3 to 10 inches; grayish brown (10YR 5/2) gravelly sandy loam, dark brown (7.5YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; few thin clay films as colloid stains and bridging mineral grains; 20 percent pebbles; slightly alkaline (pH 7.6); gradual smooth boundary.

Bt2--10 to 17 inches; brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; common thin clay films lining pores, bridging mineral grains, and as colloid stains; 30 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Cr--17 inches; soft highly weathered granite.

Type location: Elko County, Nevada; approximately 3 miles south of Middlestack Mountain; about 2,000 feet south and 2,100 feet east of the northwest corner of section 20 T. 45 N., R. 65 E.; (41 degrees, 46 minutes, 30 seconds north latitude and 114 degrees, 38 minutes, 12 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry late July to October.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 14 to 20 inches, includes all or part of the argillic horizon.

Depth to paralithic contact: 14 to 20 inches.

Reaction--Neutral or slightly alkaline.

A horizon:

Value--4 or 5 dry, 2 or 3 moist.

Chroma--2 or 3.

Bt horizons:

Hue--10YR or 7.5YR.

Value--4 through 6 dry, 3 or 4 moist.

Chroma--2 through 4.

Clay content--Averages 10 to 24 percent.

Textures--Gravelly sandy loam in upper part and gravelly sandy loam or gravelly sandy clay loam in lower part.

Structure--Weak to moderate subangular blocky.

Rock fragments--15 to 35 percent, mainly pebbles 2 to 5 millimeters in size.

Xipe Series

The Xipe series consists of very deep, very poorly drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. The Xipe soils are on flood plains. Slopes are 0 to 2 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine-silty over sandy or sandy-skeletal, mixed, mesic Fluvaquentic Haplaquolls

Typical pedon: Xipe silt loam, 0 to 2 percent slopes, is located in an area of map unit 340. (Colors are for dry soil unless otherwise noted.)

A1--0 to 3 inches; dark grayish brown (10YR 4/2) silt loam, very dark brown (10YR 2/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine, fine, common medium, and few coarse roots; many very fine tubular pores; neutral (pH 6.8); abrupt smooth boundary.

A2--3 to 6 inches; dark gray (10YR 4/1) silty clay loam, black (10YR 2/1) moist; few fine distinct dark yellowish brown (10YR 4/4) mottles; strong medium and coarse prismatic structure; hard, friable, very sticky and moderately plastic; many very fine, common fine, and medium roots; many very fine and common fine tubular pores; neutral (pH 7.0); abrupt smooth boundary.

A3--6 to 10 inches; grayish brown (10YR 5/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; few fine distinct dark yellowish brown (10YR 4/4) mottles; strong coarse prismatic structure; hard, friable, very sticky and moderately plastic; common very fine, fine, and medium roots; many very fine and common fine tubular pores; few fine manganese concretions; neutral (pH 7.2); abrupt irregular boundary.

Ab1--10 to 12 inches; very dark gray (10YR 3/1) silty clay loam, black (10YR 2/1) moist; few fine distinct strong brown (7.5YR 4/6) mottles; strong fine and medium subangular blocky

structure; hard, friable, very sticky and moderately plastic; common very fine, fine and medium roots; many very fine and common fine tubular pores; few fine gypsum masses; 5 percent pebbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

Ab2--12 to 20 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; common, medium, faint, brown (10YR 5/3) mottles; strong thick and very thick platy structure; hard, friable, moderately sticky and slightly plastic; common very fine, fine and medium roots; many very fine and common fine tubular pores; few fine gypsum masses; slightly alkaline (pH 7.4); abrupt smooth boundary.

ACb--20 to 26 inches; gray (10YR 6/1) silty clay loam; very dark gray (10YR 3/1) moist; common medium distinct dark yellowish brown (10YR 4/4) mottles; strong medium and coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine, and medium roots; many very fine, common fine, and medium tubular pores; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

2C1--26 to 37 inches; gray (10YR 6/1) gravelly loamy sand, dark grayish brown (10YR 4/2) moist; many medium and coarse distinct dark yellowish brown (10YR 4/6) and few fine distinct dark reddish brown (2.5YR 2.5/4) mottles; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine interstitial pores; 15 percent pebbles; slightly alkaline (pH 7.4); abrupt smooth boundary.

3C2--37 to 60 inches; light brownish gray (10YR 6/2) gravelly coarse sand, dark grayish brown (10YR 4/2) moist; many coarse distinct strong brown (7.5YR 4/6) and brownish yellow (10YR 6/6) mottles; single grain; loose, nonsticky and nonplastic; few very fine, fine and medium roots; many fine interstitial pores; many fine manganese concretions; 15 percent pebbles; slightly alkaline (pH 7.4).

Type location: Elko County, Nevada; approximately 8 miles south of Jackpot, in the Salmon Falls Creek drainage; about 2,000 feet south and 1,500 feet west of the northeast corner of section 4, T. 45 N., R. 64 E.; (41 degrees, 47 minutes, 05 seconds north latitude and 114 degrees, 43 minutes, 40 seconds west longitude.)

Range in Characteristics:

Soil moisture: Saturated at some depth between the soil surface and 18 inches for at least one month during most years, mainly during late winter and spring. Average summerand fall months the depth to water table is 36 to 60 inches.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 24 inches.

Depth to contrasting textures: 15 to 35 inches.

Control section:

Percent clay--Upper part is 18 to 35 percent and the lower part is up to 5 percent.

Rock fragments--Upper part is up to 5 percent and the lower part averages 15 to 35 percent with any one strata having up to 75 percent, mainly pebbles.

A horizons:

Value--3 through 6 dry, 2 or 3 moist.

Chroma--1 or 2.

Structure--Prismatic, subangular blocky or platy.

Reaction--Neutral or slightly alkaline.

Redox concentration--Common in the lower subhorizons range from few to many, fine to coarse and are faint or distinct.

Gypsum--Absent in the lower subhorizons of many pedons.

Other features--Buried A horizons are common in most pedons.

C horizons:

Value--5 or 6 dry, 3 or 4 moist.

Chroma--1 or 2.

Redox concentrations--Few to many, fine to very coarse, and faint or distinct.

Yuko Series

The Yuko series consist of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from mixed rocks. Yuko soils are on hills and pediments. Slopes are 2 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed, mesic, shallow Xerollic Haplargids

Typical pedon: Yuko gravelly sandy loam, 15 to 50 percent slopes, is located in an area of map unit 010. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; light brownish gray (10YR 6/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine roots; many very fine, fine, and common medium vesicular pores; 25 percent pebbles, 5 percent cobbles; neutral (pH 7.2); abrupt smooth boundary.

A2--2 to 4 inches; brown (10YR 5/3) gravelly loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular pores; few thin clay films on faces of peds; 20 percent pebbles and 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt1--4 to 8 inches; brown (10YR 5/3) clay loam, dark grayish brown (10YR 4/2) moist; strong medium angular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine and few fine roots; few fine and many very fine tubular pores; many moderately thick clay films lining tubular pores and on faces of peds; 5 percent pebbles; neutral (pH 6.9); abrupt wavy boundary.

Bt2--8 to 10 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; strong medium angular blocky structure; hard, very firm, very sticky and very plastic; few very fine roots; few very fine interstitial pores; continuous moderately thick clay films on faces of peds; slightly alkaline (pH 7.4); abrupt wavy boundary.

Cr--10 to 17 inches; soft tuff bedrock.

Type location: Elko County, Nevada; approximately 20 miles northwest of Wells near Tabor Creek; about 800 feet east and 2,200 feet north of the southwest corner of section 32, T. 41 N., R. 61 E.; (41 degrees, 23 minutes, 55 seconds north latitude and 115 degrees, 06 minutes, 22 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist in winter and spring; dry from June through October.
Soil temperature: 47 to 52 degrees F.
Depth to paralithic contact: 6 to 14 inches.
Control section:
Clay content--Averages 27 to 35 percent, with less than 45 percent sand.
Rock fragments--Average 5 to 15 percent, mainly pebbles and cobbles.

A horizons:
Value--5 to 6 dry, 3 or 4 moist.
Chroma--2 or 3.
Reaction--Slightly acid or neutral.

Bt horizons:
Hue--7.5YR or 10YR.
Value--4 through 6 dry, 3 or 4 moist.
Chroma--3 through 6 dry, 2 through 6 moist.
Texture--Dominantly silty clay loam or clay loam, with subhorizons of clay in some pedons.
Clay content--30 to 40 percent.
Rock fragments--Averages 0 to 15 percent.
Reaction--Slightly acid through moderately alkaline
Other features--Some pedons have a 1 to 4 inch thick clay subhorizon.

Zapa Series

The Zapa series consists of moderately deep to duripan, well drained soils that formed in alluvium derived from mixed rocks, loess, and volcanic ash. The Zapa soils are on fan remnants. Slopes are 2 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, mesic Haploxerollic Durorthids

Typical pedon: Zapa very gravelly silt loam, 4 to 15 percent slopes, is located in an area of map unit 401. (Colors are for dry soil unless otherwise noted.)

A1--0 to 2 inches; light brownish gray (10YR 6/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate very thin and thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; many very fine vesicular pores; 55 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

A2--2 to 5 inches; brown (10YR 5/3) very gravelly silt loam, dark brown (10YR 3/3) moist; moderate very thin and thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; common very fine tubular pores; 40 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.

Bw--5 to 7 inches; brown (10YR 5/3) very gravelly silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; common very fine tubular pores; common very thin silica and silt coats lining pores; 40 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Bkq1--7 to 12 inches; pale brown (10YR 6/3) very gravelly silt loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; many very fine to very coarse silica chips; many moderately thick to thick silica and lime pendants on the underside of rock fragments; 25 percent weak discontinuous silica cementation; 45 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

2Bkq2--12 to 25 inches; very pale brown (10YR 8/3) very gravelly coarse sandy loam, pale brown (10YR 6/3) moist; massive; hard, firm and brittle, nonsticky and nonplastic; common very fine and fine roots; common very fine interstitial pores; 10 percent discontinuous strong silica cementation; many very fine to very coarse silica chips; common very thin silica and silt coats lining pores; many moderately thick to thick silica and lime pendants on undersides of rock fragments; 55 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

3Bkqm1--25 to 42 inches; strongly silica cemented duripan with thin, discontinuous silica and lime laminae throughout various parts of horizon; strong medium and thick platy structure; extremely hard and slightly rigid; common very fine and fine roots in fractures between plates; 20 percent violently effervescent in a noneffervescent matrix; clear wavy boundary.

3Bkqm2--42 to 60 inches; very pale brown (10YR 8/3) extremely gravelly coarse sandy loam, pale brown (10YR 6/3) moist; massive; very hard, very firm and brittle, nonsticky and nonplastic; many thin to moderately thick silica and lime pendants on undersides of rock fragments; 25 percent discontinuous strongly silica cemented; 75 percent pebbles; violently effervescent on undersides of rock fragments; noneffervescent matrix; strongly alkaline (pH 8.6)

Type location: Elko County, Nevada, approximately 12 miles southwest of Jackpot; about 2,640 feet south and 100 feet west of the northeast corner of section 1 T. 45 N., R. 63 E.; (41 degrees, 49 minutes, 00 seconds north latitude and 114 degrees, 46 minutes, 50 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry June through early November.

Soil temperature: 47 to 52 degrees F.

Depth to the strongly cemented duripan: 20 to 30 inches.

Depth to continuous brittle matrix: 5 to 14 inches.

Control section:

Clay content--10 to 20 percent.

Rock fragments--35 to 60 percent, mainly pebbles.

Texture--Very gravelly silt loam, very gravelly sandy loam, very gravelly coarse sandy loam.

A horizons:

Value--5 or 6 dry, 3 or 4 moist, averages greater than 5.5 dry and 3.5 moist in the upper 7 inches.

Chroma--2 or 3.

Reaction--Slightly alkaline or moderately alkaline.

Bkq horizons:

Value--6 through 8 dry, 4 through 6 moist.

Chroma--3 or 4.

Structure--Weak coarse subangular blocky or it is massive.

Reaction--Moderately alkaline or strongly alkaline.

Other features--10 to 50 percent discontinuous weak silica and lime cementation.

Bkqm horizons:

Value--7 or 8 dry, 5 through 7 moist.

Chroma--3 or 4 moist.

Structure--Strong medium to very thick platy or it is massive.

Other features--Continuous strong cementation with the average lateral distance between fracture point of more than 4 inches.

3Bqk horizon:
Texture--Extremely gravelly sandy loam or extremely gravelly coarse sandy loam
Rock fragments--60 to 80 percent, mainly pebbles with up to 20 percent cobbles.
Reaction--Moderately alkaline or strongly alkaline.

Zark Series

The Zark series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from tuffaceous rocks. The Zark soils are on hills. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Ashy, mesic Mollic Vitrandepts

Typical pedon: Zark loamy fine sand, 2 to 8 percent slopes, is located in an area of map unit 1201. (Colors are for dry soil unless otherwise noted.)

A1--0 to 5 inches; grayish brown (10YR 5/2) loamy fine sand, very dark grayish brown (10YR 3/2) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; neutral (pH 6.8); abrupt smooth boundary.
A2--5 to 16 inches; grayish brown (10YR 5/2) loamy fine sand, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; neutral (pH 7.2); clear wavy boundary.
Bq--16 to 29 inches; pale brown (10YR 6/3) loamy fine sand, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 40 percent discontinuous weak silica cementation; 5 percent hard, firm durinodes 1/2 to 2 inches in diameter; 5 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.
Bqk--29 to 35 inches; light brownish gray (2.5Y 6/2) gravelly loamy fine sand, olive brown (2.5YR 4/4) moist; massive; hard, firm and brittle, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; few fine strongly effervescent irregularly shaped filaments and soft masses of lime; 20 percent pebbles; continuous brittle matrix; noneffervescent matrix; slightly alkaline (pH 7.8); abrupt wavy boundary.
2Cr--35 inches; gray (10YR 6/1) soft ashy tuff.

Type location: Elko County, Nevada; approximately 25 miles east of Jackpot; about 2,000 feet east and 2,000 feet south of the northwest corner of section 32, T. 47 N., R. 69 E.; (41 degrees, 55 minutes, 22 seconds north latitude and 114 degrees, 09 minutes, 35 seconds west longitude.)

Range in Characteristics:

Soil moisture: Usually moist, dry from mid July through October.
Soil temperature: 47 to 52 degrees F.
Mollic epipedon thickness: 10 to 18 inches.
Depth to paralithic: 20 to 40 inches.
Volcanic ash and glass aggregates: Greater than 80 percent.
Control section:
Percent clay--5 to 15 percent.
Rock fragments--0 to 15 percent pebbles.

A horizons:
Value--4 or 5 dry, 2 or 3 moist.
Chroma--2 or 3.

Bq and Bqk horizons:
Hue--10YR or 2.5Y.
Chroma--2 through 4.
Texture--Loamy fine sand, loamy sand or gravelly loamy fine sand.
Rock fragments--5 to 25 percent mainly pebbles.
Reaction--Neutral to moderately alkaline, increasing with depth.
Other features--From 30 percent weak, discontinuous silica cementation in the upper subhorizons to weak, continuous silica cementation that is brittle when moist in the lower subhorizon.

Formation of the Soils

This section relates the soils in the survey area to the major factors of soil formation.

Soil is a natural body on the earth's surface in which plants grow. It is a mixture of varying proportions of rocks, minerals, organic matter, water and air. The rocks and minerals are fragmented and are partly or wholly weathered. Soils have distinctive layers, or horizons, that are the product of environmental forces acting upon material deposited or accumulated through geologic activity.

Soils differ from one another in different localities and within short distances. The differences are the result of the interaction of five soil-forming factors that are known to affect soil formation. These factors are (1) climate, mainly the temperature and kind and amount of precipitation that have existed since accumulation of the parent material; (2) living organisms, mainly the plant cover and the organisms living in and on the soil; (3) topography or relief, mainly as it affects the internal and external soil properties such as drainage, aeration, susceptibility to erosion, and exposure to sun and wind (4) parent material, including texture and structure of the material as well as its mineralogic and chemical composition; and (5) the length of time that the soil-forming factors have been operating.

In general, the landscape of the area is comprised mainly of mountains and valleys that are the result of geologic, stratigraphic, and structural control. The present topography and landforms, however, are primarily the result of events during Quaternary time. The kinds of soil that formed are indicative of the stability and age of the surfaces of the landforms on which they occur.

Climate

The climate of the survey area is characterized by warm, dry summers and cool, moist winters. The average annual precipitation ranges from about 7 inches in the lowest elevations of the valleys to about 16 inches or more at the highest elevations in the Snake Mountains, Browns Bench, The Granite Range, and the Delano Mountains. The average annual air temperature ranges from about 51 degrees F. in the lower elevation areas to about 41 degrees F. or lower in some of the high mountain ranges.

Major climatic variations are the result of the effects of topography and relief. Temperature decreases with increasing elevation. Precipitation increases with increasing elevation and is highest in the mountainous areas. As a consequence, the soils in the survey area reflect a general zonation with respect to elevation and longitudinal location.

The valleys in the survey area at elevations of 4,800 to 6,700 feet have an average annual precipitation of 7 to 14 inches. With increasing elevation there is an accompanying increase in precipitation which results in deeper leaching of salts and calcium carbonate, decreased reaction, changes in the kind and density of vegetation, and a thicker and darker A horizon.

At the highest elevations, up to about 8,800 feet, precipitation is 12 to over 16 inches. Leaching of salts and carbonates is more intensive. The soils are neutral or slightly acid with a thick A horizon that is high in organic matter content. Aridic Haploxerolls (Loncan series), Pachic Cryoborolls (Hapgood series), and Argic Pachic Cryoborolls (Tusel series) are typical of these soils.

In winter, freezing and thawing generally occur throughout the survey area, except in those areas that generally are insulated by snow cover. The effects of frost action are discernible by the heaving of plants, development of miniature stone rings, and erosion of the surface soil. At some of the higher elevations freezing and thawing has fractured and displaced the bedrock.

Living Organisms

Plants, animals, insects and microorganisms are important biological forces that affect soil formation in the survey area. Animals, such as badgers and

ground squirrels, and insects, such as cicadas, have had some effect on soil development, although plants appear to have been the major biological influence on the soils in this survey area.

The vegetation in the area has been a particularly important factor in reducing erosion. This factor has helped to maintain the stability of the land surfaces so that normal soil formation could take place.

Because of climatic differences, plants vary considerably in kinds and amounts with differences in elevation. On alluvial flats and fan skirts at low elevations, the main plants are salt-tolerant shrubs and grasses. Because of the salinity of these soils, plants cover only a small part of the surface. Therefore, very little organic matter is added to the soil and the scarcity of plants or litter provides little protection from the wind and sun. This is common in the Aeric Halaquepts (Ocala series) and Durorthidic Torriorthents (Batan series). Salt-tolerant shrubs also tend to recycle salts from the deeper layers to the soil surface.

On the floodplains where drainage is restricted, the dense growth of meadow vegetation has supplied the organic matter that gives the Cumulic Haplaquolls (Devilsgait and Welch series) a thick, dark-colored A horizon.

The piedmonts and hills at higher elevations support a plant cover of shrubs and grass that is transitional from desert shrubs. The density of plants is somewhat greater, soluble salts are deeper in the soil profile, and the A horizons of these soils have accumulated slight to moderate amounts of organic matter depending on soil stability. Xerollic Durargids (Hunnton series) and Lithic Xerollic Haplargids (Soughe series) are typical of these soils.

The mountainous areas support denser stands of shrubs, grasses, and in some places, trees. Because of the more abundant vegetation, the A horizons of most of the soils, such as the Pachic Argixerolls (Bullump series), are thick, high in organic matter, and dark in color.

Topography

Topography, through its effects on drainage, runoff, erosion, and exposure to the sun and wind, has had an important effect on soil formation in the survey area. The mountain ranges, valleys, and flood plains reflect the gross variations in relief within the area.

The mountain ranges are mainly characterized by excessive relief. Runoff is rapid and very rapid, and the hazard of erosion is high. The removal of material by erosion inhibits or prevents soil development. Development in soils on unstable mountain surfaces that are subject to a high rate of geologic erosion is primarily limited to accumulation of organic matter to form a dark colored A horizon. A cambic or an argillic horizon has formed in the soils on more stable mountain surfaces where the rate of geologic erosion has been slower. Lithic Xerollic Haplargids (Soughe series) and Aridic Argixerolls (Sumine series) are examples of soils on stable mountain slopes where soil formation has been able to act on parent material long enough for argillic horizons to develop.

Soils on concave and north-facing mountain slopes commonly have snow that remains into late spring and early summer. The effect of temperature and moisture is enhanced in these areas, resulting in dense stands of shrubs and grass. The soils in these areas have developed a thick, dark-colored A horizon with a high content of organic matter. Pachic Cryoborolls (Hapgood series) are examples of these soils.

The northeast corner of the survey area is characterized by gently sloping plateaus and hills. The plateaus have broad summits and steep, fault escarpment side slopes. They consist of tertiary sedimentary rocks and ashy tuffs. Typic Vitrandepts (Bluehill series) and Xeric Durandepts (Tomsherry series) are examples of soils on plateaus. The hills have crests and steep side slopes. They mainly consist of ashy tuffs, welded tuffs, and rhyolite. Lithic Argixerolls (Shalper series), Mollic Vitrandepts (Zark series) and Mollic Hapoxeralfs (Xerxes series) are examples of soils on hills.

The valleys are either semi-bolsons or bolsons that receive drainage water primarily from the surrounding mountain ranges. Within the survey area, the valleys are characterized by a series of level or nearly level basin floors consisting of floodplains or lake plains bordered by a piedmont slope consisting of fan skirts and fan piedmonts. They consist of Quaternary valley-fill material and tertiary tuffaceous sedimentary rocks.

In the valleys of the survey area stream erosion has dissected the valley fill and tuffaceous sedimentary rock, except in the southeast corner of the survey area. Downcutting of the valleys has been interrupted several times and these events are marked by the development of fan piedmonts. The dissection patterns in some of these areas have resulted in fan piedmont remnant summits and side slopes with inset fans and floodplains along drainageways. The fan piedmont areas have been relatively stable over a long period of time as a

result of the bypassing of drainage water from hills and mountains through dissection channels. Xerollic Durorthids (Chiara series), Xerollic Durargids (Hunnton and Chuska series) and Aridic Durixerolls (Cameek and Stampede series) are examples of soils on stable fan piedmonts. Durixerollic Camborthids (Enko and Orovada series) and drained Cumulic Haplaquolls (Welch series) are examples of soils on inset fans and floodplains.

The valley bottoms in the southeast corner of the survey area are not dissected. The valley fill material is generally very high in silt. This area has been greatly affected by ancient Lake Bonneville. They are characterized by a piedmont slope consisting of fan skirts, lake plains, sand dunes and offshore bars. Typic Calciorthids (Gravier and Loray series) are examples of soils on fan skirts. Aquic Torriorthents (Ixian series) and Typic Torriorthents (Sondoa series) are examples of soils found on lake plains. Typic Torripsamments (Kawich series) are examples of soils found on sand dunes. Typic Paleorthids (Luap series) are examples of soils found on offshore bars.

The level and nearly level alluvial flats and lower floodplains are in areas that have accumulated soluble salts. Runoff is slow and drainage is somewhat restricted. The soils in this area are light colored and contain soluble salts. Aeric Halaquepts (Ocala series) are examples of soils that formed in this area.

The nearly level floodplains in the survey area have a high water table. Runoff is very slow and some of the soils are subject to flooding. The soils in these areas support dense stands of meadow vegetation that have contributed a large amount of organic matter to the soils, producing a dark-colored A horizon. Cumulic Haplaquolls (Devilsgait and Welch series) are examples of these soils. In some areas, where stream channel entrenchment is common, the water table is at a greater depth. The soils in these areas support basin big sagebrush and basin wildrye and where irrigated support good stands of meadow vegetation. These soils also have dark-colored A horizons. The drained Cumulic Haplaquolls (Devilsgait series) are examples of soils found on floodplains where channel entrenchment is common.

Parent Material

Parent material is the weathered rock or unconsolidated material from which soils form. The hardness, grain size, and porosity of the parent material and its mineralogical and chemical composition greatly influence soil formation. The main sources of parent material in the survey area are intrusive and extrusive igneous rock, sedimentary rock, lacustrine sediments, and eolian material, including loess and volcanic ash. Minor amounts of metamorphic rocks are present in localized areas.

The igneous rocks of the survey area mainly consists of rhyolite, basalt, welded and nonwelded tuffs. The igneous rocks contain appreciable quantities of minerals that weather to clay. The more siliceous rock, particularly tuff, is also a source of silica for the cementation of soil horizons. Because of the ability of material derived from volcanic rock to produce clay upon weathering, most soils that formed in this material that are on sufficiently stable landforms for long periods of time, have developed argillic horizons. Aridic Argixerolls (Sumine and Cotant series), Lithic Argixerolls (Cleavage series), and Lithic Xerollic Haplargids (Soughe series) are examples of these soils.

Colluvium has accumulated on steep mountain slopes as a result of gravitational forces and is a soil parent material. The colluvium generally is poorly sorted, contains many rock fragments, and includes minerals that weather to clay. Many of the colluvial landscapes have not been stable long enough for an argillic horizon to have formed in soils such as the Pachic Cryoborolls (Hapgood and Hackwood series).

Ordovician through Triasic age sedimentary rock occurs in mountains and hills throughout the survey area. This bedrock consists of relatively thick sequences of chert, shale, siltstone, sandstone, conglomerate and limestone. Typic Calcixerolls (Cavehill series) are examples of soils that have developed calcic horizons. Lithic Xeric Torriorthents (Hopeka series) are examples of shallow, undeveloped soils on unstable land surfaces where an argillic horizon has not formed.

Late Tertiary sedimentary rock occurs in valleys and hills throughout the survey area. The bedrock consists primarily of older alluvium and lakebed deposits containing interbedded tuffaceous shale, tuffaceous sandstone, siltstone and mudstone. Xeric Torriorthents (Puett and Hundraw series) are examples of shallow and moderately deep undeveloped soils on unstable surfaces where soil formation is minimal.

Alluvium deposited as piedmont slopes and basin floors consists of sandy, silty and clayey material of generally mixed mineralogy that has been eroded from surrounding hills and mountains.

Alluvium deposited from mixed rock sources on mountain valley fans, alluvial fans, fan piedmonts

and fan skirts are sandy, loamy and silty textured and generally contain pebbles, cobbles, and stones. It is porous and, except in areas that are highly calcareous, contains minerals that, when weathered, produce clay and soluble silica for cementation of duripans. The highly calcareous materials, when weathered, commonly form calcic and petrocalcic horizons. Pachic Argixerolls (Arva series) are examples of soils on mountain valley fans which tend to be in areas of higher elevation. Durixerollic Haplargids (Wieland series) and Xerollic Durargids (Hunnton series) are examples of soils with an argillic horizon and silica cementation that formed on stable fan piedmonts. Xerollic Durorthids (Chiara series) are examples of soils on stable alluvial fans. Durixerollic Camborthids (Enko series) are examples of soils with a cambic horizon and some silica cementation on fan piedmonts and fan skirts. Aridic Calcixerolls (Pamison series) and Xerollic Paleorthids (Pibler series) are examples of soils with calcic and petrocalcic horizons on fan piedmonts.

Alluvium deposited below the fan piedmonts as alluvial flats and floodplains consists of sandy, silty and clayey material. Soluble salts are common in some of these soils. Although these materials contain weatherable minerals, the soils are young and do not exhibit appreciable soil development. Aeric Halaquepts (Ocala series) and Cumulic Haplaquolls (Devilsgait series) are examples of these soils.

Volcanic ash and eolian material has been instrumental as a source of silica in the formation of durinodes and duripans in the soils of the area. Durixerollic Camborthids (Kelk series) on fan skirts and inset fans and Aeric Halaquepts (Ocala series) on alluvial flats and floodplains are examples of these soils.

Time

Time is required for the formation of soil horizons. The amount of time required depends upon the other soil-forming factors. Thickness and other characteristics of A and B horizons and other horizons reflect the relative age of soils. The strength of expression of the soil horizons is a reflection of the amount of weathering of parent material resulting from the interaction of moisture, temperature, and biological activity as influenced by time.

The soils in this survey area range from a few years to possibly a few hundred thousand years or more in age. This range in age is a major reason for the many kinds of soil in the area.

The influence of time and other soil-forming factors are not well understood by soil scientists and geologists working in this field. Many soil scientists and some geologists feel that weathering of parent material and soil profile development have been essentially continuous, with little change in rate throughout Quaternary time (I2), (I3), (I7).

Recently, geologists concerned with differentiating Quarternary deposits have proposed that soil development has not proceeded continuously at the same rate, but has taken place intermittently at rapid rates (9), (10), (11), (I6). These geologists have developed the technique of mapping soil stratigraphic units which use weathering profiles as stratigraphic markers to differentiate and correlate Quarternary deposits. The concept of soil development is based on the assumption that weathering profiles formed in response to infrequent combinations of climatic factors that induced minimal erosion and deposition and a greatly accelerated rate of chemical weathering.

Although disagreements exist in regard to the relative influences of time and other soil-forming factors, the concept of intermittency of soil formation has been supported by numerous studies and provides a practical technique to discuss the age of soil in the survey area in relation to geologic climatic units in Quaternary time. For the purposes of this discussion, time-stratigraphic names will be as set forth by Birkeland (3). These are Holocene (0-10,000 years), Late Wisconsin (10,000-30,000 years), Middle Wisconsin (30,000-40,000 years), Early Wisconsin (40,000-130,000 years), and pre-Wisconsin (130,000+ years).

The kinds of diagnostic subsurface horizons and other subsurface diagnostic properties (20), together with their strength of expression, provide general clues to the age of the soils in the area. Important subsurface diagnostic horizons present in soils within the area include argillic, natric, and cambic horizons, horizons exhibiting silica cementation, calcic and petrocalcic horizons.

Prominent argillic horizons in this area occur generally only in soils that formed primarily during Wisconsin and pre-Wisconsin. This concept has been established by studies in the Southwest (5), (6) and is further supported in Soil Taxonomy (20). With increasing age and constancy of other conditions, argillic horizons become finer in texture, become somewhat thicker, and tend to develop abrupt upper boundaries. Weakly expressed, thin

argillic horizons may have formed during Late Wisconsin or Early Holocene time.

Natric horizons are special kinds of argillic horizons that formed under the influences of high exchangeable sodium content. The effect of sodium on the dispersion of clay may tend to accelerate the rate of formation of argillic horizons. This is not believed to be significant, however, except in weakly expressed natric horizons that formed on Holocene surfaces. Following earlier development as argillic horizons, prominent natric horizons may have developed their present characteristics as a result of sodium supplied with eolian deposits. Transportation and deposition of sodium salts with eolian deposits are believed to be an important present-day process that affects the physical and chemical properties of soils in the area.

Calcic horizons are horizons of accumulation of calcium carbonate. The calcium is considered to have originated from carbonate in the parent material or from eolian deposits. In this area, calcic horizons in soils with highly calcareous parent material generally formed primarily in Holocene to Late Wisconsin time (3). Soils that formed under these conditions are usually weakly developed. Lithic Xerollic Calciorthids (Amtoft) and Typic Calciorthids (Gravier and Loray series) are examples of soils formed under these conditions.

Petrocalcic horizons form when a calcic horizon becomes plugged with carbonates and cemented into a hard, massive and continuous horizon. The petrocalcic horizon is a mark of advanced soil formation and in this area formed primarily in pre-Wisconsin time (3). Xerollic Paleorthids (Pibler series) and Typic Paleorthids (Luap series) are examples of these soils.

The volcanic glass in sediment derived from pyroclastic material and in alluvial and eolian deposits of volcanic ash is a source of silica for the formation of duripans and durinodes in many of the soils in the survey area. Duripans are massive or platy horizons that are cemented with silica and, in most instances, with accessory carbonates. Because of their association with prominent argillic horizons, massive duripans capped with silica and lime cemented laminar layers are probably the oldest kind of duripan in the area and are of pre-Wisconsin age. Thin duripans lacking overlying laminar layers, weak discontinuous silica cementation, and/or durinodes have apparently developed on Holocene surfaces in loess or loamy alluvium generally deposited on gravely material. These forms of silica cementation apparently are capable of forming during a relatively short period of time and are probably less than 7,000 years old.

The degree of development of diagnostic subsurface horizons in the soils of the area indicates a sequence that ranges in age from present late Holocene to pre-Wisconsin.

The youngest soils in the area are those that formed in recently aggraded material or in material recently exposed by erosion. Included among these soils are shallow Xeric Torriorthents (Puett and Grina series) formed in Tertiary sediments on low hills where geologic erosion has been active.

Somewhat older than the youngest soils are soils that formed in alluvium on wet floodplains, slowly aggrading inset fans and soils on relatively recently eroded mountain slopes. These soils have been stable long enough to have accumulated organic matter and formed a dark-colored A horizon. They do not have an argillic, natric, cambic or calcic horizons, duripans or durinodes. They are probably less than about 1,000 years old. Cumulic Haplaquolls (Welch series) are examples of soils that formed on wet floodplains. Aridic Haploxerolls (Loncan series) and Lithic Haploxerolls (Agassiz series) are examples of soils that formed on mountain slopes.

Soils that formed in alluvium and have developed subsurface horizons containing durinodes or horizons with very weak silica cementation are also older that the youngest soils and possibly are slightly older than the soils that have developed a dark-colored A horizon as their only diagnostic feature. These soils formed in saline and alkali affected parent material containing appreciable amounts of volcanic ash and are on alluvial flats, axial-stream floodplains and fan skirts. The volcanic ash as a source of soluble silica along with the alkaline reaction, probably contributes to relatively rapid formation of durinodes and incipient silica cementation. Aeric Halaquepts (Ocala series) and Durorthidic Torriorthents (Batan series) are examples of soils that have horizons with incipient silica cementation.

Stable Holocene land surfaces less than about 10,000 years and more than 2,000 years old are extensive in the survey area. The soils that formed on these surfaces have a cambic horizon. Cambic horizons in soils within the area formed for the most part in mixed alluvium. Original stratification is absent, and carbonates and some silica have been removed and redeposited in underlying horizons. Investigations in southern New Mexico indicate that cambic horizons in that region are less than about 5,000 years old (4), (7). Cambic horizons in the survey area and in other areas in Nevada have been

generally thought to be less than 10,000 years old, and possibly less than 7,000 years. This age has been determined mostly as a result of soil mapping in areas located below the last high stage of Pleistocene Lake Lahontan (8), (9), (10), (11). Durixerollic Camborthids (Enko, Kelk and Orovada series) are examples of soils with cambic horizons on fan piedmont remnants, inset fans, fan skirts, fan aprons, and partial ballenas.

The landscape in some areas is less stable and have been stripped by subsequent erosion during Late Wisconsin Time, exposing relict duripans. Following redeposition during middle to early Holocene, loess and loamy alluvium derived from surrounding land surfaces covered these relict subsurface horizons to a shallow depth. Soil development of the surface alluvium is minimal. Xerollic Durorthids (Chiara and Peeko series) are examples of these soils on fan piedmonts and partial ballenas.

Soils that have a relict argillic horizon are believed to be of Late Wisconsin to pre-Wisconsin age. These soils occur extensively on mountains, hills and fan piedmonts. The fact that extensive areas of these kinds of soils exist today is evidence that major erosional and depositional events have not taken place or have been minor in extent since late Pleistocene time.

Stable Early-Late Wisconsin or Middle Wisconsin land surfaces are extensive. These soils have dominantly fine-loamy or loamy-skeletal argillic horizons. Durixerollic Haplargids (Nevador series) are an example of soils with argillic horizons on fan piedmonts. Lithic Argixerolls (Cleavage series) is an example of soil with argillic horizons on hill and mountain side slopes. Aridic Argixerolls (Sumine series) are examples of soils on mountain side slopes.

Stable Early Wisconsin or Early-Middle Wisconsin land surfaces are extensive. These soils have well developed, fine textured argillic or natric horizons. They occupy older, stable land surfaces where the original subsurface horizons have been neither stripped by erosion or deeply buried by sediment. Aridic Durixerolls (Stampede series) and Xerollic Durargids (Hunnton series) are examples of these soils on fan piedmonts. Aridic Argixerolls (Lerrow series) are examples of these soils on mountain slopes.

Stable very Early Wisconsin and pre-Wisconsin surfaces are moderately extensive in the area. These surfaces are relatively stable, deeply dissected, and have fine and very fine textures with an argillic horizon that has an abrupt upper boundary. It is because of these characteristics that these soils are considered to be the oldest in the area. Abruptic Aridic Durixerolls (Donna series) are examples of these soils on fan piedmonts.

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Glossary

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 narrow valley upon a plain, or of a tributary stream near or at its junction with its main stream.

Alluvial flat. A nearly level, graded, alluvial surface in bolsons and semi-bolsons. Commonly, an alluvial flat does not manifest terraces or floodplain levels.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipridyl. 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.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Argillite. Weakly metamorphosed mudstone or shale.

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 3.5
Low	3.5 to 5
Moderate	5 to 7.5
High	more than 7.5

Avalanche chute. The track or path formed by an avalanche.

Back slope. The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Back slopes in profile are commonly steep, are linear, and may or may not include cliff segments.

Backswamp. A floodplain landform of extensive, marshy, or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

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.

Ballena. A fan remnant having a distinctively-rounded surface of fan alluvium. The ballena's broadly rounded shoulders meet from either side to form a narrow summit and merge smoothly with concave, short pediments which form smoothly-rounded drainageways between adjacent ballenas. A partial ballena is a fan remnant large enough to retain some relict fan surface on a remnant summit.

Barrier beach. A wide gently sloping portion of a bolson floor comprising numerous, parallel, relict longshore-bars and lagoons built by a receding pluvial lake.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation-exchange capacity.

Basin floor. A general term for the nearly level, lowermost part of intermontane basins (i.e., bolson, semi-bolsons). The basin floor includes all of the alluvial, eolian, and erosional landforms below the piedmont slope.

Beach terrace. The relict shorelines from pluvial lakes, generally restricted to valley sides.

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 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.

Board foot. A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board one foot wide, one foot long, and one inch thick before finishing.

Bolson. A landscape term for an internally drained intermontane basin into which drainages from surrounding mountains converge inward toward a central depression.

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.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caldera. A large, more or less circular depression, formed by explosion and/or collapse, which surrounds a volcanic vent or vents, and whose diameter is much greater than that of the included vent, or vents.

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 a 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.

Channeled. Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

Channery soil material. Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. 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.

Clayey soil. Silty clay, sandy clay, or clay.

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.

Clearcut. A method of forest harvesting that removes the entire stand of trees in one cutting. Reproduction is achieved artificially or by natural seeding from adjacent stands.

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.

Closed depression. A low area completely surrounded by higher ground and having no natural outlet.

Coarse fragments. Mineral or rock particles larger than 2 millimeters in diameter.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded, partly rounded, or angular fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that is 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 is 35 to 60 percent of these rock fragments, and extremely cobbly soil material is more than 60 percent.

Codominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

Colluvium. Unconsolidated, unsorted earth material moved and deposited by mass movement on sideslopes and at the base of slopes.

Commercial forest. Forest land capable of producing 20 cubic feet or more per acre per year at the culmination of mean annual increment.

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.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane that typically takes 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.

Conglomerate. A coarse grained, clastic rock composed of rounded to 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 soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but, for many, it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). 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.

Deep soil. A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

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.

Dominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above and from the sides.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A mound, ridge, or hill of loose, windblown granular material (generally sand), either bare or covered with vegetation.

Ecological Site. A distinctive kind of rangeland or grazed forestland that has a unique historic potential native plant community. Ecological sites are the products of all the environmental factors that affect their development. An ecological site is capable of supporting a native plant communty that has a unique kind and/or proportion of species or total vegetative production. Ecological sites in grazed forestland include both overstory and understory vegetation.

Effervescence. The quality of a soil measured when drops of diluted (1:10) hydrochloric acid (HCL) are added to the soil. The ratings are as follows:

Very slightly effervescent	few bubbles
Slightly effervescent	bubbles readily
Strongly effervescent	bubbles form low foam
Violently effervescent	bubbles form thick foam quickly

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.

Even aged. Refers to a stand of trees in which only small differences in age occur between the individuals. A range of 20 years is allowed.

Excess alkali (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sodium (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Excess sulfur (in tables). Excessive amount of sulfur in the soil. The sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.

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 apron. A sheet-like mantle of relatively young alluvium covering part of an older fan piedmont surface. It somewhere buries a soil that can be traced to the edge of the fan apron.

Fan piedmont. The most extensive landform on piedmont slopes, formed by the coalescence of alluvial fans or accretions of fan aprons into one generally smooth slope.

Fan remnant. A general term for landforms that are remaining parts of older fan-landforms, that either have been dissected or partially buried.

Fan skirt. The zone of smooth, laterally-coalescing, small alluvial fans that issue from gullies cut into the fan piedmont or that are the coalescing extensions of inset fans of the fan piedmont, and that merge with the basin floor.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of fire fighters 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 is, by volume, 15 to 35 percent flagstones. Very flaggy soil material is 35 to 60 percent flagstones, and extremely flaggy soil material is 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.

Foot slope. The inclined surface at the base of a hill.

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.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

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. The microrelief of clayey soils that shrink and swell considerably with changes in moisture content. Usually manifested as a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope.

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 is 15 to 50 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 underlying 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.

Gypsum. A mineral consisting of hydrous calcium sulfate.

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.

Heavy metal. Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form oxides and hydroxides that are basic. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

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.

Holocene. The epoch of the Quaternary Period of geologic time, extending from the end of the Pleistocene Epoch (about 10 to 12 thousand years ago) to the present.

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. 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 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.

Inset fan. A special case of the flood plain of an ephemeral stream that is confined between fan remnants, basin-floor remnants, ballenas, or closely opposed fan toeslopes.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Intermontane basin. A generic term for wide structural depressions between mountain ranges that are partly filled with alluvium. They may be drained internally (bolsons) or externally (semi-bolsons).

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.

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lagoon. The nearly level, filled depression behind the longshore bar on a barrier beach.

Lake plain. A surface marking the floor of an extinct lake, filled in by well sorted, stratified sediments.

Lake terrace. The narrow shelf produced along a lake shore and later exposed when the water recedes.

Lamella. A thin, generally horizontal layer of fine material illuviated within a very much thicker, coarser, eluviated layer.

Landform. Any recognizable form or feature on the earth's surface, having a characteristic shape, and produced by natural causes that provide an empirical description of similar portions of the earth's surface.

Landscape. A collection of related, natural landforms.

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.

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.

Loamy soil. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Longshore bar. A narrow, elongate, coarse-textured ridge, built by the wave action of a pluvial lake, that extends parallel to the shore and separated it from a lagoon; both the bar and lagoon are now relict features.

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.

Mean annual increment (MAI). The average annual increase in volume of a tree during the entire life of the tree.

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.

Merchantable trees. Trees that are of sufficient size to be economically processed into wood products.

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 deep soil. A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance--*few, common,* and *many*; size--*fine, medium,* and *coarse*; and contrast--*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 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 between 6.6 and 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.

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.

Observed rooting depth. Depth to which roots have been observed to penetrate.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Overstory. The trees in a forest that form the upper crown cover.

Oxbow. The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.

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.

Parna dune. An eolian dune built of sand size aggregates of clayey material that commonly occurs leeward of a playa.

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.

Pediment. A gently sloping erosional surface developed at the foot of a receding hill or mountain slope.

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 downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

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:

Extremely slow	0.00 to 0.01 inch
Very slow	0.01 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.)

Piedmont slope. The dominant slope at the foot of a mountain. Main components of the piedmont slope include pediments, alluvial fans, fan piedmonts, fan skirts and inset fans.

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.

Pleistocene.The epoch of the Quaternary Period of geologic time preceding the Holocene (from aproximately 2 million to 10 thousand years ago).

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Pluvial. Relating to former periods of abundant rains.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

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.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

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.

Quartzite, metamorphic. Rock consisting mainly of quartz that formed through recrystallization of quartz-rich sandstone or chert.

Quaternary. The period of geologic time, extending from about 2 million years ago to the present and comprising two epochs, the Pleistocene (Ice Age) and Holocene (Recent).

Quartzite, sedimentary. Very hard but unmetamorphosed sandstone consisting chiefly of quartz grains.

Range condition. The present composition of the plant community on a range site in relation to the potential natural plant community for that site. Range condition is expressed as excellent, good, fair, or poor on the basis of how much the present plant community has departed from the potential.

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.

Range site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range 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 range sites in kind or proportion of species or total production.

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 (mildly alkaline)	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regeneration. The new growth of a natural plant community, developing from seed.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relict stream terrace. One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

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 is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Riverwash. Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

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.

Rock outcrop. Exposures of bare bedrock other than lava flows and rock-lined pits.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Rubble land. Areas that have more than 90 percent of the surface covered by stones or boulders. Voids contain no soil material and virtually no vegetation other than lichens. The areas commonly are at the base of mountain slopes, but some are on mountain slopes as deposits of cobbles, stones, and boulders left by Pleistocene glaciation or by periglacial phenomena.

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 groundwater runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Salinity. The electrical conductivity of a saline soil. It is expressed, in millimhos per centimeter, as follows:

Nonsaline	0 to 2
Very slightly saline	2 to 4
Slightly saline	4 to 8
Moderately saline	8 to 16
Strongly saline	More than 16

Salty water (in tables). Water that is too salty for consumption by livestock.

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.

Sand sheet. A large, irregularly shaped, surficial mantle of eolian sand.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy soil. Sand or loamy sand.

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.

Sawlogs. Logs of suitable size and quality for the production of lumber.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Scribner's log rule. A method of estimating the number of board feet that can be cut from a log of a given diameter and length.

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.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Semi-bolson. An intermontane basin that is drained externally by an intermittent stream.

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.

Shallow soil. A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shelterwood system. A forest management system requiring the removal of a stand in a series of cuts so that regeneration occurs under a partial canopy. After regeneration, a final cut removes the shelterwood and allows the stand to develop in the open as an even-aged stand. The system is well suited to sites where shelter is needed for regeneration, and it can aid regeneration of the more intolerant tree species in a stand.

Shoulder slope. The uppermost inclined surface at the top of a hillside. It is the transition zone from the back slope to the summit of a hill or mountain. 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.

Shrub-coppice dune. A small dune that forms around shrubs or small trees.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

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 class. A grouping of site indexes into five to seven production capability levels. Each level can be represented by a site curve.

Site curve (50-year). A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for the range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 50 years old or are 50 years old at breast height.

Site curve (100-year). A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 100 years old or are 100 years old at breast height.

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.

Skid trails. Pathways along which logs are dragged to a common site for loading onto a logging truck.

Slash. The branches, bark, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

Slickens. Accumulations of fine-textured material, such as material separated in placer-mine and ore-mill operations. Slickens from ore mills commonly consist of freshly ground rock that has undergone chemical treatment during the milling process.

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.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, the following slope classes are recognized:

Nearly level	0 to 2 percent
Gently sloping	2 to 4 percent
Moderately sloping	4 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 30 percent
Steep	30 to 50 percent
Very steep	50 to 75 percent
Extremely steep	75 percent and higher

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of 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 $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Very slight	5-12:1
Slight	13-30:1
Moderate	31-45:1
Strong	46-90:1
Very strong	more than 90:1

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.

Species. A single, distinct kind of plant or animal having certain distinguishing characteristics.

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.

Strath terrace. A surface cut formed by the erosion of hard or semiconsolidated bedrock and thinly mantled with stream deposits.

Stream channel. The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to soil blowing 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 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. A general term for the top, or highest level, of an upland feature, such as a hill or mountain. It commonly refers to a higher area that has a gentle slope and is flanked by steeper slopes.

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.

Tailwater. The water directly downstream of a structure.

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.

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 is generally 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). A step-like surface, ordinarily flat or undulating, bordering a river, a lake, or the sea representing a former flood plain.

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 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.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Too arid (in tables). The soil is dry most of the time, and vegetation is difficult to establish.

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.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Trafficability. The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

Tread. The relatively flat terrace surface that was cut or built by stream or wave action.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Understory. Any plants in a forest community that grow to a height of less than 5 feet.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley. An elongated depressional area primarily developed by stream action.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Very deep soil. A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Very shallow soil. A soil that is less than 10 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

Waterspreading. Diverting runoff from natural channels by means of a system of dams, dikes, or ditches and spreading it over relatively flat surfaces.

Water supplying capacity. The total amount of water available in the soil for plant growth in a normal year from precipitation and from runon from higher areas. Runoff and water lost to deep percolation are not included.

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 ovendry basis, at which a plant (specifically, a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

United States Department of Agriculture

Natural Resources Conservation Service

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

Soil Survey of Elko County, Nevada, Northeast Part

Part II

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Part II

Issued 1998

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Part II

Soil Survey of
Elko County, Nevada, Northeast Part

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for 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.

Interpretative ratings help engineers, planners, and others to understand how soil properties influence important nonagricultural uses, such as building site development and construction materials. The ratings indicate the most restrictive soil features affecting the suitability of the soils for these uses.

Soils are rated in their natural state. No unusual modification of the soil site or material is made other than that which is considered normal practice for the rated use. Even though soils may have limitations, it is important to remember that engineers and others can modify soil features or can design or adjust the plans for a structure to compensate for most of the limitations. Many of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs of site preparation and maintenance.

Planners and others using soil survey information can evaluate the effect of specific and uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, trees, and shrubs.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained. The estimated yields of the main crops and pasture plants are listed for each soil in table 5 at the back of this publication.

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" in Part I of this Publication and in the "Soil Properties" portion of Part II. Specific information can be obtained from the local office of the Natural Resources Conservation Service or Cooperative Extension.

Crop Yield Estimates

The average yields per acre that can be expected of the principal irrigated crops under a high level of management are shown in table 5, "Land Capability and Yields per Acre of Crops." In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

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.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or Cooperative Extension can provide information about the management and productivity of the soils for those crops.

Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Information about forage yields other than those shown in table 5, "Land Capability and Yields per

Acre of Crops" can be provided by the local office of the Natural Resources Conservation Service or Cooperative Extension.

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 woodland, or for engineering purposes.

In the capability system, as described in "Land Capability Classification" (19), soils generally are grouped at three levels: capability class, subclass, and unit. These levels indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes I, II, III, and IV are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class I to class IV. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes V, VI, and VII are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class V to class VII. The local office of the Cooperative Extension or Natural Resources Conservation Service can provide guidance on the use of these soils as cropland.

Areas in class VIII are generally not suitable for crops, pasture, or woodland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses indicate the dominant limitations in the class. They are designated by adding a small letter, *e, w, s,* or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main hazard is the risk of erosion unless a 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* shows that the chief limitation is a climate that is very cold or very dry.

There are no subclasses in class I because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use mainly to pasture, rangeland, woodland, wildlife habitat, or recreation.

The irrigated capability classification of each farmland map unit is given in table 5, "Land Capability and Yields per Acre of Crops."

Erosion Factors

Soil erodibility factors Kw and Kf quantify the susceptibility of soil to detachment by water. A wind erodibility group (WEG) is a grouping of soils that have similar properties affecting their resistance to soil blowing. The Wind Erodibility Index (I) is based on the WEG and is used in the wind erosion equation. Soil erodibility factors Kw and Kf are used in the Revised Universal Soil Loss Equation. The procedure for predicting soil loss is useful in guiding the selection of soil and water conservation practices.

Soil Erodibility Factors Kw and Kf

Factor Kw shows the erodibility of the whole soil, and factor Kf shows the erodibility of only the fine-earth fraction, the material less than 2.0 millimeters in diameter. The soil erodibility factor indicates the susceptibility of a soil to sheet and rill erosion by water. The soil properties that influence erodibility

are those that affect the infiltration rate, the movement of water through the soil, and the water storage capacity of the soil and those that allow the soil to resist dispersion, splashing, abrasion, and the transporting forces of rainfall and runoff. The most important soil properties are the content of silt plus very fine sand, the content of sand coarser than very fine sand, the content of organic matter, soil structure, and permeability.

Wind Erodibility Groups

Soils are assigned wind erodibility groups on the basis of the properties of the surface layer. The properties that are most important with respect to soil blowing are soil texture, content of organic matter, calcium carbonate, reaction, content of rock fragments, and aggregate stability. Wind erodibility is inversely related to the percentage of dry surface soil aggregates larger than 0.84 millimeter in diameter. From this percentage, the wind erodibility index factor (I) is determined.

Soil Loss Tolerance (T) Factor

The annual Soil Loss Tolerance (T) is an estimate of the maximum rate of erosion that can occur without affecting crop productivity. The T factor is expressed in tons of soil loss per acre per year. Values of 1 to 5 are used. T values are assigned according to properties of limiting subsurface soil layers. The designation of a limiting layer implies that the material above the layer has more favorable properties for crop production. The criteria for assigning T are based on the severity of physical or chemical properties of subsurface layers, the climatically influenced properties of soil moisture and temperature, the economic feasibility of utilizing management practices to overcome limiting layers or conditions, and the depth to the limiting layer.

Additional information about wind erodibility groups and I, Kw, Kf, and T factors can be obtained from local offices of the Natural Resources Conservation Service or Cooperative Extension.

Rangeland And Grazeable Woodland Resource Management

In this soil survey report, the term "rangeland" refers to a kind of land rather than a land use. Areas of rangeland provide many important resource values. They act as vast watersheds and provide habitat for wildlife, livestock forage, and opportunities for recreation. The resource values of rangeland are intricately related to each other and are often directly affected by rangeland management. Because of the interrelationships among rangeland resources, rangeland managers should consider all resource values when planning range improvements.

About 90 percent of the acreage in this survey area is rangeland. Livestock grazing is the principal agricultural use of the rangeland. Livestock operations are mostly cow-calf or cow-calf-sheep enterprises. Ranches range from a few hundred to several thousands acres in size. They rely heavily on permitted use of public lands. Most of the rangeland within the survey area is administered by the Bureau of Land Management. The Bureau of Indian Affairs has management responsibility for the rangeland within Indian reservations.

Soil-Site Correlation

During the course of this soil survey, ecological sites were correlated with the soils identified within the survey area. These correlations are based on the current understanding of soil-plant-climate relationships in the survey area. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of range plants. Soil reaction, content of salts or lime, and topographic position are also important. The relationship of climate to vegetation and soils is considered in the classification of soils and in soil mapping criteria. In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Ecological sites can generally be determined from soil maps and map unit legends developed for the survey area.

Range Condition

Mining is the major industrial use of rangeland in the survey area and has played an important role in the history of the area. During the mining booms of the 1870's, herds of cattle, sheep, oxen, horses, and burros were brought to Elko County Northeast to be used as a source of power and feed for the developing mining communities. Heavy grazing pressure during these boom periods depleted native stands of forage throughout much of the survey area.

The early devastation of rangeland plant communities through uncontrolled livestock grazing ended long ago, but severely depleted areas still reflect the abuses of early settlement. In the most severly disturbed areas, palatable shrubs generally have been replaced by less desirable shrubs and many native perennial grasses and forbs have been replaced by alien or introduced annual grasses and forbs. Recovery of the plant community has been most evident where previous abuses were limited. The greater the level of deterioration, the longer the period of recovery. Although present-day rangeland production and plant diversity in the survey area are generally less than optimal, the overall condition of the rangeland is much improved from what was common in the early 1900's.

Range condition is determined by a comparison of the present plant community with the natural potential plant community on a particular rangeland ecological 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. Ratings of range condition alone do not indicate whether the present plant community is improving or deteriorating in relation to its potential. The trend in range condition is a measure of the direction of change in the condition. It is an expression of the effects of

current use. The present range condition is a reflection of the accumulated effects of past use. Once the potential plant communities have been identified and the present range condition has been determined, monitoring the trend in range condition over time can indicate whether management objectives are being met.

Rangeland Management

Range management requires a knowledge of the kinds of soil and of the natural potential plant communities the soils in a given area can support. It also requires an evaluation of the present range condition. For most rangeland plant communities, good management can improve the present condition and productivity of the range and can help to prevent accelerated erosion. Proper management of rangeland depends on many factors. The season of grazing use, the kind of grazing animal, the intensity and distribution of grazing, and the range resource potential are important management considerations. Multiple-use management that meets present and future needs requires extensive knowledge of the capabilities and limitations of the range resources. An understanding of the soil properties and dynamics of native plant communities is fundamental in applying ecological principles to the evaluation and management of rangeland.

Generally, the objective of range management is to manage grazing so that the plants growing on a site are about the same in kind 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 erosion. To meet a special need or a specific use, however, it may be desirable to manage for a plant community other than the potential plant community for the site. Care must always be taken not to increase the susceptibility to erosion. Future uses and the relative ability of given sites to respond to management should be considered if the management objective is to establish a plant community other than the potential plant community.

Desirable forage plants of many plant communities within the survey area have been greatly depleted or even eliminated by excessive and untimely grazing. Generally, perennial grasses have decreased in abundance and woody plants have increased. The productivity of forage plants is below the production potential on many sites. Uneven livestock distribution has resulted in both overuse and underuse of the native forage.

An increase in the abundance and size of shrubs and an extensive invasion of cheatgrass (an introduced annual grass) have reduced the amount of soil moisture and nutrients available to perennial grasses and forbs. In areas where the range condition has not excessively deteriorated and an adequate population of desirable perennial grasses and forbs is available to respond to a release from plant competition, brush management can be effective in reversing the trend toward an increasing dominance of woody vegetation.

Abusive grazing of riparian vegetation by livestock can reduce water quality, eliminate streamside shrubs, cause soil compaction, accelerate erosion, and break down streambanks. Proper management of the rangeland in the survey area requires that special attention be given to riparian zones. Fortunately, riparian communities often respond to improved livestock management more rapidly than upland plant communities. Grazing treatments in riparian areas vary with the stability of the riparian plant community and the condition of the adjacent upland plant communities.

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. Revegetation also may be necessary for critical area treatment following a wildfire or other major disturbance. Maximum grazing capacity can be achieved in seeded stands where the objective of management is uniform grazing of the stands and prevention of the concentration of livestock. Additional water developments and fencing may be required to meet management objectives.

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.

Each soil in the survey area is rated in table 6, "Suitability for Rangeland Seeding." The criteria used in the developement of these ratings are available from the local Nevada office of the Natural Resources Conservation Service. 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.

More specific management concerns are addressed under the heading "Plant Communities of Elko County, Nevada Northeast " later in this section. Additional information about rangeland management can be obtained from local offices of the Natural Resources Conservation Service or Cooperative Extension.

Wildlife Considerations

Reducing the extent of brush cover can benefit many game and nongame wildlife species where the habitat needs of those animals are properly identified and planned for in the manipulation of vegetation. For instance, extensive areas dominated by big sagebrush provide marginal habitat for pronghorn antelope. The habitat can be improved by measures that decrease the density and height of the sagebrush. The habitat for mule deer can be improved by removing big sagebrush and thus enhancing the diversity of understory grasses and forbs or increasing the production of green forage on transitional range that has an excessive cover of shrubs.

For other species, however, brush removal may be detrimental. Sage grouse is a habitat-specific bird, relying primarily on sagebrush to meet its life requirements. Plans for the manipulation of sagebrush stands on range inhabited by sage grouse should provide for the maintenance of suitable grouse habitat, especially nesting habitat near strutting grounds. The optimum nesting habitat for sage grouse is one in which the crown cover of sagebrush that is less than 30 inches high is 20 to 40 percent. Treatment of the sagebrush that reduces the cover from 40 to 20 percent may not seriously degrade the nesting habitat and commonly improves the quality of forage for sage grouse.

In an assessment of how the manipulation of vegetation affects wildlife, "edge" habitat is an important consideration. The structure and dominance of plants that remain after manipulation differ with the method of treatment. Fire removes all of the vegetation, including the skeletons or woody portions of shrubs, and thus eliminates the structure of woody vegetation from the treated area. Prescribed burning may enhance the habitat for a number of wildlife species. Mule deer and many nongame species select recently burned areas for feeding. Brush treatment with herbicides leaves the dead skeletons of shrubs and retains the shrub structure. Herbicides may kill broad-leaved forbs in the shrub understory, which are staples in the diet of many game and nongame species. Chaining and, to a lesser degree, brush beating change the vegetative structure from tree/shrub or shrub to grassland, and the residue they leave on the ground creates habitat for small mammals.

Many wildlife species in the survey area depend on riparian plant communities during much of the year. These plant communities support wildlife not common to desert ecosystems, such as short-eared owls, Pacific tree frogs, and long-tailed weasels. Riparian communities also provide islands of habitat in desert environments for migrating birds. Nuthatches, warblers, and other species that nest in forest ecosystems migrate to desert riparian zones in spring and fall.

Livestock water developments can be beneficial to wildlife if the water is available when the wildlife species occupy the area. Forage for wildlife can be enhanced if adapted forbs are included in a rangeland seeding.

More specific wildlife management concerns are addressed under the heading "Plant Communities in Elko County, Northeast." Additional information about wildlife management can be obtained from local offices of the Natural Resources Conservation Service, Cooperative Extension, or Nevada Division of Wildlife.

Plant Communities of Elko County, Nevada Northeast

A rangeland ecological site is a distinctive kind of rangeland that differs from other kinds of rangeland 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, and grazing by native fauna, and the damage caused by insects and disease are

recognized as natural factors in the development of native plant communities.

The appendix in the section "Rangeland Plants and Woodland Understory" shows the rangeland plants and woodland understory for each soil and contrasting inclusion in the detailed soil map units, the rangeland or woodland 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, the rangeland or woodland ecological site, and the total annual production of vegetation in favorable, normal, and unfavorable years. The characteristic vegetation, which consists of the grasses, forbs, shrubs, and immature trees that make up most of the potential plant community for each soil, is listed by common name. For rangeland, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals, the grazing season, and the availability of forage. Many plants, trees, and shrubs are inaccessible to foraging animals. For woodland, the percentage of the total annual production is not given because of a wide variation of production under different tree canopies. The presence of a plant species in the understory vegetation is shown by an "X" in the composition section of the table.

Total potential production is the amount of vegetation that can be expected to grow annually on well managed rangeland or woodland that supports the potential natural community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's production of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, above average amounts and optimum timing of precipitation during periods of warm temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture.

Riparian areas or meadows are interspersed throughout the survey area. Riparian vegetation grows on the flood plains along perennial streams. Stringer meadows are along spring-fed stream channels where moisture is available to plants throughout most of the growing season. Meadow vegetation also grows on the periphery of seeps and springs. Although they make up a small acreage in the survey area, the riparian zones are important because they provide free water, which improves the productivity of the riparian vegetation and lengthens the growing season of the vegetation. The zones are characterized by diverse plant species and a structural diversity of vegetation. The zones along stream channels are typically linear. The linear nature of the zones maximizes the edge effect between the zones and the adjacent uplands. An "edge," or ecotone, is a transition between plant communities or a joining of different vegetative structures within plant communities. It commonly is richer in wildlife than either of the adjoining communities.

Elko County Northeast is in the northeastern part of the Basin and Range Physiographic Province. The major plant associations in the survey area typify the general zonation of vegetation common in the Great Basin Region. Valley floors and the lower piedmont slopes are dominated by salt-desert shrub plant communities. Above the salt-desert shrub zone, sagebrush-grass plant communities are prevalent in areas where the mean annual precipitation is 8 inches or more.

Salt-desert shrub communities normally reflect either a climatically dry environment where the mean annual precipitation is less than 8 inches or physiologically dry soil conditions. High concentrations of salts that interfere with the uptake of water by plants can create physiologically dry soil conditions. Representative shrubs of the salt-desert shrub communities are shadscale, bud sagebrush, winterfat, and Douglas rabbitbrush. The common grasses include Indian ricegrass, bottlebrush squirreltail, Sandberg bluegrass, and desert needlegrass.

The salt-desert shrub plant communities in the survey area include stands dominated by a single shrub species and stands that support relatively heterogeneous mixtures of shrubs and grasses. The vegetation is generally sparse, normally covering less than 20 percent of the surface. Wind erosion and water erosion are hazards because of the naturally sparse plant cover in most areas. The interspaces between plants in salt-desert shrub communities commonly are stabilized by surface pavements of rock fragments, by a puddled and crusted soil surface, or by microphytic (algae) surface crusts. These protective features can be damaged by livestock or off-road vehicle traffic.

Salt-desert shrub plant communities are most valuable as winter range for livestock. They can produce high-quality winter forage and are usually

subject to only light snowfall. Most of the desirable forage species in these communities are adversely affected by grazing in late winter (March and April), heavy use, or both. Where native rangeland communities are grazed in winter, an emergency supply of feed should be readily available to carry livestock through periods of unusually severe weather.

Properly regulated grazing management can enhance the long-term productivity of salt-desert shrub plant communities. This management includes deferred grazing during critical growth periods in late winter, rotational grazing, and control of the intensity and season of use. Fencing, herding, water hauling, and controlling livestock access to watering facilities can achieve a better distribution of grazing. Because of the harsh environment of the salt-desert shrub zone, manipulation of vegetation and revegetation projects generally are not advisable.

Salt-desert shrub communities provide habitat for a wide variety of nongame species, including whiptail lizards, antelope ground squirrels, loggerhead shrikes, and Pacific rattlesnakes. Plant communities that are dominated by shadscale or winterfat and associated forbs and grasses provide important winter range for pronghorn antelope. Fencing can deter the migration of pronghorn antelope because these animals commonly do not jump. As a result, the lower wire of the fences should be high enough for antelope to crawl under. Where feasible, the fence lines should be routed so that they cause the least disruption to antelope travel. Livestock water developments are beneficial to antelope and other wildlife if the water is available when the animals occupy the area. Few mule deer use salt-desert shrub communities, which generally are unimportant in deer management. Feral horses use these communities in winter.

Within the salt-desert shrub zone are low areas that commonly receive extra moisture as runoff from higher landscape positions and as shallow, low-velocity overflow during periods of runoff. Black greasewood, basin big sagebrush, and basin wildrye are important plants on these sites. When in good condition, these plant communites can produce more than 2,000 pounds of basin wildrye per acre. When in poor condition, however, they typically produce less than 500 pounds per acre. The potential for increasing the production of basin wildrye is good on many sites in poor or fair condition in the survey area. Basin wildrye provides standing dried forage during its fall and winter dormancy and can provide calving areas in late winter. Mule deer, pygmy rabbits, and northern harriers inhabit basin wildrye communities throughout the year.

Other plant communities that reflect extra moisture conditions are adjacent to valley floor playas. These areas may have a high water table during periods of runoff. Black greasewood, shadscale, inland saltgrass, and basin wildrye are the characteristic plants on these sites.

Plant communities that are dominated by black greasewood provide thermal cover for many species of wildlife but have limited value for big game. Because of its spines and coarse structure, black greasewood provides protective cover to nesting birds and small mammals. Although this species is not a preferred forage plant for livestock, cattle and sheep eat the succulent spring growth. On late fall and winter ranges, the fruit of black greasewood and shadscale provides nutritious and palatable feed. The soluble oxalates in black greasewood may be harmful to livestock, especially sheep, if the new growth is excessively grazed in spring.

As snow melts in spring, runoff commonly drains into valley floor basins. It remains for short periods, providing nesting and feeding habitat for some waterfowl. Playas containing water in spring are important resting places for migrating waterfowl. Sand dunes formed through the deposition of windblown sediment are commonly on the leeward side of the playas in this survey area. Although of limited extent, partially stabilized sand dunes provide important habitat for both predator and prey vertebrate wildlife. Kangaroo rats, kit foxes, and bobcats inhabit the sand dunes.

Sagebrush-grass plant communities are at the lower elevations (about 5,000 feet) in the survey area. The average annual precipitation at these elevations is between 8 and 10 inches.

Wyoming big sagebrush, Lahontan sagebrush (a newly recognized subspecies of low sagebrush), and, to a lesser extent, basin big sagebrush are the dominant woody sagebrush plants at the lower elevations in the survey area. Cool-season perennial grasses are potentially the dominant herbaceous plants in the sagebrush-grass plant communities. Thurber needlegrass, Indian ricegrass, bottlebrush squirreltail, and Sandberg bluegrass are important cool-season bunch grasses. Grazing pressure has been severe on the sagebrush-grass plant communities at the lower elevations. These plant communities are the first to begin growth, or "greenup," during the warming periods of early spring and have traditionally been used for spring grazing by livestock. Close grazing spring after

spring will eventually eliminate the perennial understory of grasses and forbs.

Grazing management practices can enhance the long-term productivity of sagebrush-grass communities. These practices include deferred grazing during critical growth periods in spring, rotational grazing, and control of the intensity and season of use. Fencing, herding, water hauling, and controlling livestock access to watering facilities can achieve a better distribution of grazing and facilitate grazing management.

Very few sources of perennial water are available in the sagebrush-grass zone at the lower elevations. Therefore, water developments and watering facilities are key elements in grazing management. Also, they can be of significant value to wildlife. Where the range condition has not deteriorated excessively and an adequate population of desirable perennial grasses and forbs is available to respond to a release from plant competition, brush management can greatly enhance the production of forage for livestock and wildlife.

The selection of plants available for rangeland seeding in the 8- to 10-inch precipitation zone is limited. Suitable species that are tolerant of early spring grazing, however, can be seeded. These species can play a key role in the management of grazing on the adjacent native sagebrush-grass and salt-desert shrub plant communities. Years of below normal precipitation are relatively frequent in this zone. Thus, the factors to be considered in managing rangeland seeding include the risk of seeding failure caused by climate.

Although the sagebrush-grass communities at the lower elevations may provide transitional spring range to pronghorn antelope moving from winter to summer ranges, plant communities that are dominated by big sagebrush are not heavily used by the antelope. Fencing can deter migration of the antelope because these animals commonly do not jump. As a result, the lower wire of the fences should be high enough for the antelope to crawl under. Where feasible, the fence lines should be routed so that they cause the least disruption to antelope travel. Livestock water developments are beneficial to wildlife, especially deer and antelope, if the water is available when the animals are in the area.

During severe winters in areas of the sagebrush-grass communities at the lower elevations, sage grouse may feed on sagebrush that has not been covered by snow. Heavy snow at the higher elevations forces chukar partridge to move into these areas in search of food. The sagebrush-grass communities at the lower elevations are used primarily by mule deer and feral horses as winter range or as transitional range in spring. Spring grazing by livestock in areas used by deer as winter range should be managed so that the turn out of livestock is delayed until after spring "greenup"and the migration of most of the deer.

Sagebrush-grass communities are at intermediate elevations (about 6,000 feet) in the survey area. The average annual precipitation at these elevations is between 10 and 14 inches.

Wyoming big sagebrush dominates the shrub canopy of the mid-elevation plant communities on the warmer, drier exposures. Basin big sagebrush is most common on the deeper soils at the lower elevations in this precipitation zone. Mountain big sagebrush is prevalent on the north aspects at the lower elevations of the zone and grows on all aspects at the higher elevations. Low sagebrush is the dominant dwarf sagebrush at the mid and upper elevations in the survey area. Bluebunch wheatgrass, Thurber needlegrass, Canby bluegrass, Sandberg bluegrass, and basin wildrye are the major perennial grasses associated with these mid-elevation sagebrush-grass communities. Antelope bitterbrush is an important shrub in many plant communities at these elevations.

The mid-elevation sagebrush-grass communities are suitable for grazing by livestock in summer and fall. Deferred grazing during critical growth periods in spring and early summer, rotational grazing, and control of the intensity and season of use can enhance the long-term productivity of these communities. Fencing, herding, and stratigically locating livestock watering facilities help to achieve a better distribution of grazing and facilitate grazing management. Relatively few sources of perennial water are available in areas of the mid-elevation sagebrush-grass zone. As a result, water developments and watering facilities are key elements in grazing management and can be of significant value to wildlife.

Wyoming big sagebrush communities at mid elevations are used primarily as winter range by mule deer. They commonly provide habitat for Brewer's sparrow, black-tailed jackrabbits, and sagebrush lizards. They provide wintering areas for sage grouse. Low sagebrush communities provide important summer range for pronghorn antelope and brood-rearing habitat for sage grouse. Livestock water developments can be beneficial to wildlife, especially deer and antelope, if the water is available when the animals are in the area. Mountain big sagebrush and low sagebrush communities provide

spring, summer, and fall range for mule deer and feral horses.

Seasonal grazing by livestock removes old grass residue and exposes the regrowth of succulent green stems and leaves that provide food for mule deer. The steep rock-faced cliffs common to these mid elevations have ledges, joints, cracks, and occasional caves and thus provide safe sites for birds and small mammals to nest and rear their young. The common nongame species are sage thrasher, the Great Basin gopher snake, and desert mouse. Areas of exposed lava flow rock, natural breaks in the cliffs, and the associated talus commonly are used as travel lanes by wildlife, including mule deer.

Brush management practices can be very effective in increasing the production of native forage in the mid-elevation sagebrush-grass zone. They can be beneficial to wildlife as well as livestock. Opening up large, homogeneous stands of sagebrush commonly improves the habitat for wildlife, such as mule deer and pronghorn antelope. Rangeland seeding may be required following the removal of woody vegetation where desirable understory plants are scarce or are not included in the present plant community. A number of forbs and grasses are suitable for dryland seeding in the 10-to 14-inch precipitation zone. Including suitable forbs in the seeding mixture helps to provide additional forage for wildlife, such as pronghorn antelope, mule deer, and sage grouse.

Pinyon and juniper plant communities are at mid-elevations in the survey area. Local expansion of pinyon or juniper from woodland sites to the adjacent rangeland is common. The invasion of juniper and pinyon into sagebrush-grass communities has been attributed to overgrazing, a scarcity of naturally recurring fires, and climatic conditions. Young trees are readily killed by fire. The loss of fine fuel to carry fire and, to a lesser extent, fire control have limited the frequency and extent of natural fires in the sagebrush-grass zone. This reduction in the frequency of fires has allowed seedlings to become established in increasing numbers on sites that at one time supported virtually no trees.

Livestock commonly concentrate on the woodland sites, taking advantage of the shade and shelter provided by the tree overstory. These sites also provide habitat for nongame wildlife species, including the bushy-tailed woodrat, the blue-grey gnat-catcher, and the American kestrel; thermal cover for mule deer; and habitat for small mammals and birds.

Areas that have a heterogeneous mixture of vegetative types, including grassland, low shrub, tall shrub, and tree-shrub communities, generally provide an optimum diversity of wildlife habitat. These types of vegetative complexes are common in the sagebrush-grass zones at the intermediate and upper elevations. Moderate browsing by cattle on antelope bitterbrush in fall can enhance the vigor and growth of the bitterbrush, which is later available for grazing by mule deer and antelope.

Stringer meadows are along spring-fed stream channels in the sagebrush-grass zones at the intermediate and upper elevations. Meadow vegetation also grows on the periphery of seeps and springs. Wet meadows adjacent to sagebrush stands are important as brood-rearing areas for sage grouse. During the first weeks after leaving the nest, sage grouse chicks eat mainly insects (ants and beetles) and the succulent forbs that are common in wet meadows. Grazing of the meadows by cattle can improve the quality of feed for sage grouse if a period of regrowth is provided for the key forb species. Grazing increases the succulence of the forbs by interrupting the maturation of the plant tissues. The succulent or young leaf tissue is higher in protein and lower in fiber than mature tissue. As they seek sources of succulent forbs, sage grouse select meadows that have been grazed by cattle. Sage grouse chicks find food and cover in properly grazed meadows, which appear patchy because of different stubble heights remaining after livestock have grazed the meadows.

Improper grazing of riparian vegetation by livestock can cause gully erosion. This erosion, in turn, can result in lower water tables, the drying out of meadows, and the loss of valuable wildlife and livestock forage. Grazing management strategies that are sensitive to the development and maintenance of healthy riparian areas are needed.

The uppermost elevations of the survey area (about 7,000 feet and higher) typically support high-elevation sagebrush-grass plant communities. The average annual precipitation ranges from 14 to more than 18 inches. Mountain big sagebrush and low sagebrush dominate the shrub canopy of these plant communities. The shrub understory grasses include Idaho fescue, western needlegrass, mountain brome, Columbia needlegrass, Letterman needlegrass, basin wildrye, slender wheatgrass, and bluebunch wheatgrass. Mountain browse species, such as snowberry, serviceberry, and antelope bitterbrush, are common in the shrub overstory. Curlleaf mountainmahogany stands are at the highest elevations, on mountain summits, and the upper side slopes. Areas of aspen woodland are common in concave pockets and along riparian zones.

Plant communities on the high-elevation sites are potentially very productive and normally respond rapidly to management. These sites remain cold and wet through spring and into early summer. They are used as summer range for livestock. Grazing should be delayed until the surface layer has dried sufficiently for compaction to be limited. Snow often blankets these sites by late fall, further restricting the period of livestock grazing. Steeply sloping areas are common throughout the high-elevation sagebrush-grass zone. Livestock tend to overuse the less sloping areas unless grazing is managed for an even distribution of grazing. Fencing, properly locating watering facilities, and herding force livestock to use areas that otherwise might remain ungrazed. Salt and mineral blocks should be placed away from water.

Mule deer use the high-elevation plant communities for summer range. North-facing slopes that have a patchwork of dense stands consisting of mountain browse are important deer-fawning areas. These dense stands should be maintained because they provide cover for wildlife. Areas of aspen woodland provide important cover for wildlife and are a source of shade for livestock and wildlife.

Seeps and springs are common at the high elevations. Water for livestock generally is readily available. Additional water developments may be needed, however, to distribute the livestock evenly. Developed springs, pipelines, and storage tanks are dependable means of supplying water. Seeps and springs developed to provide livestock water can also be beneficial to wildlife. Excluding livestock by fencing the meadow around a seep or spring and piping the water to troughs or other storage facilities outside the exclosure help to protect the meadow vegetation grazed by wildlife. Enough water must be retained in the fenced seep or spring area to maintain the meadow vegetation. Small meadows can be developed and maintained by piping overflow water from livestock troughs into fenced areas.

Many naturally occurring meadows in the sagebrush-grass zones at the mid and higher elevations have been heavily invaded by big sagebrush. The sagebrush depletes moisture from the meadows. If the sagebrush is removed, the quantity of water and the duration of waterflow increase as grasses return to the meadows. Prescribed burning of dense sagebrush stands can be an economical means of brush management in the high-elevation sagebrush-grass zone. Brush management practices should be designed so that enough of the shrub canopy remains near meadows to provide cover for wildlife.

Rangeland seeding of the high-elevation plant communities is usually not necessary. In most areas, the remnant population of desirable forbs and grasses is sufficient to respond to grazing management and a release from shrub competition. Where rangeland seeding is needed, a wide variety of suitable species can be planted because of the relatively high annual precipitation in this zone.

Forest Land

Table 7, "Woodland Management and Productivity," can be used by forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed.

Woodland Ordination System

Table 7, "Woodland Management and Productivity," lists the ordination (woodland suitability) symbol for each soil. The ordination system is a nationwide uniform system of labeling soils or groups of soils that are similar in use and management. The primary factors evaluated in the woodland ordination system are productivity of the forest overstory tree species and the principal soil properties resulting in hazards and limitations that affect forest management. There are three parts of the ordination system: class, subclass, and group. The class and subclass are referred to as the ordination symbol.

Ordination Class Symbol

The first element of the ordination symbol is a number that denotes potential productivity in terms of cubic meters of wood per hectare per year for the indicator tree species. The larger the number, the greater the potential productivity. Potential productivity is based on site index and the corresponding culmination of mean annual increment. For example, the number 1 indicates a potential production of 1 cubic meter of wood per hectare per year (14.3 cubic feet per acre per year) and 10 indicates a potential production of 10 cubic meters of wood per hectare per year (143 cubic feet per acre per year).

Indicator species is a species that is common in the area and is generally, but not necessarily, the most productive on the soil. It is the species that determines the ordination class. It is the first species listed for a particular map unit in table 7, "Woodland Management and Productivity." This table shows the productivity for all species where data have been collected.

Site index is determined by taking height measurements and determining the age of selected trees within stands of a given species. This index is the average height, in feet, that the trees attain in a specified number of years. This index applies to fully stocked, even-aged, unmanaged stands. The site indexes shown in table 7, "Woodland Management and Productivity," are averages based on measurements made at sites that are representative of the soil series. When the site index and forest land productivity of different soils are compared, the values for the same tree species should be compared. The higher the site index number, the more productive the soil for that species. Site index values are used in conjunction with yield tables to determine average annual yields. Indirectly, they are used to determine the productivity class in the ordination class symbol.

Ordination Subclass Symbol

The second element of the ordination symbol, or subclass, is a capital letter that indicates certain soil or physiographic characteristics that contribute to important hazards or limitations to be considered in management. The subclasses are defined as follows:

Subclass X indicates that forest land use and management are limited by stones or rocks.

Subclass W indicates that forest land use and management are significantly limited by excess water, either seasonally or throughout the year. Restricted drainage, a high water table, or flooding can adversely affect either stand development or management.

Subclass T indicates that the root zone has toxic substances. Excessive alkalinity, acidity, sodium salts, or other toxic substances impede the development of desirable species.

Subclass D indicates that forest land use and management are limited by a restricted rooting depth. The rooting depth is restricted by hard

bedrock, a hardpan, or other restrictive layers in the soil.

Subclass C indicates that forest land use and management are limited by the kind or amount of clay in the upper part of the soil.

Subclass S indicates that the soil is sandy, has a low available water capacity, and normally has a low content of available plant nutrients. The use of equipment is limited during dry periods.

Subclass F indicates that forest land use and management are limited by a high content of rock fragments that are larger than 2 millimeters and smaller than 10 inches. This subclass includes flaggy soils.

Subclass R indicates that forest land use and management are limited by excessive slope.

Subclass A indicates that no significant limitations affect forest land use and management.

Forest Land Management and Productivity

Information about the productivity and management of the forested map units in the survey area is given in table 7, "Woodland Management and Productivity."

Management Concerns

In table 7, "Woodland Management and Productivity," the soils are rated for the erosion hazard, the equipment limitation, seedling mortality, the windthrow hazard, and plant competition.

The *erosion hazard* is *slight* if the expected soil loss is small; *moderate* if some measures are needed to control erosion during logging and road construction; and *severe* if intensive management or special equipment and methods are needed to prevent excessive soil loss.

The *equipment limitation* is *slight* if the use of equipment is not limited to a particular kind of equipment or time of year; *moderate* if there is a short seasonal limitation or a need for some modification in the management of equipment; and *severe* if there is a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings are for seedlings that are from a good planting stock and that are properly planted during a period of average rainfall. A rating of *slight* indicates that the expected mortality of the planted seedlings is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Windthrow hazard is *slight* if trees in wooded areas are not expected to be blown down by commonly occurring winds; *moderate* if some trees are blown down during periods of excessive soil wetness and strong winds; and *severe* if many trees are blown down during periods of excessive soil wetness and moderate or strong winds.

Plant competition is *slight* if there is little or no competition from other plants; *moderate* if plant competition is expected to hinder the development of a fully stocked stand of desirable trees; and *severe* if plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

Potential Productivity

The potential productivity of merchantable or *common trees* is expressed as a site index, which is described under the heading "Ordination Class Symbol." Commonly grown trees are those that forest land managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the "Glossary."

Waste Management

Soil properties are important when organic waste is applied as fertilizer and wastewater is applied in irrigated areas. They also are important when the soil is used as a medium for the treatment and disposal of the organic waste and wastewater. Unfavorable soil properties can result in environmental damage.

The use of organic waste and wastewater as production resources results in energy and resource conservation and minimizes the problems associated with waste disposal. If disposal is the goal, applying a maximum amount of the organic waste or the waste water to a minimal area holds costs to a minimum and environmental damage is the main

hazard. If reuse is the goal, a minimum amount should be applied to a maximum area and environmental damage is unlikely.

Interpretations developed for waste management may include ratings for manure- and food-processing waste, municipal sewage sludge, use of wastewater for irrigation, and treatment of wastewater by slow rate, overland flow, and rapid infiltration processes.

Specific information regarding waste management is available at the local office of the Natural Resources Conservation Service or Cooperative Extension.

Construction Materials

Table 8, "Construction Materials," gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In table 8, "Construction Materials," 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 soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high 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 engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel, or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have one or more of the following characteristics: a plasticity index of more than 10, a high shrink-swell potential, many stones, slopes of more than 25 percent, or a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 8, "Construction Materials," only the probability of finding material in suitable quantity in or below the soil 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 engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is as much as 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

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.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or

respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey; have less than 20 inches of suitable material; have a large amount of gravel, stones, or soluble salts; have slopes of more than 15 percent; or have a seasonal high water table at or near the surface.

The surface layer of most soils generally is 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. The data and the estimates of soil and water features listed in tables are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 9, "Engineering Index Properties" gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the series descriptions in Part I of this survey.

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 as much as 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the "Glossary."

Classification of the soils is determined according to the system adopted by the American Association of State Highway and Transportation Officials *(1)* and the Unified soil classification system *(2)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-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, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index

number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 10, "Physical Properties of the Soils," and table 11, "Chemical Properties of the Soils," show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major 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. The range in depth and information on other properties of each layer are given in the series descriptions in Part I of this survey.

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine 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 earth-moving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 10, "Physical Properties of the Soils," the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water 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 major soil layer. The capacity varies depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling

was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, more than 9 percent, is sometimes used.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 10, "Physical Properties of Soils," 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 or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, very fine sand, sand, and organic matter (as much as 4 percent) and on soil structure and permeability. The estimates are modified by the presence of rock fragments. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average 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 resistance to soil blowing in cultivated areas. The groups indicate the susceptibility of soil to soil blowing. Soils are grouped according to the following distinctions:

1. Coarse sands, sands, fine sands, and very fine sands. These soils generally are not suitable for crops. They are extremely erodible and vegetation is difficult to establish.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, and sapric soil material. These soils are very highly erodible. Crops can be grown if intensive measures to control soil blowing are used.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams. These soils are highly erodible. Crops can be grown if intensive measures to control soil blowing are used.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams that have more than 5 percent finely divided calcium carbonate. These soils are highly erodible. Crops can be grown if intensive measures to control soil blowing are used.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control soil blowing are used.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material. These soils have less than 5 percent finely divided calcium carbonate. These soils are moderately erodible. Crops can be grown if measures to control soil blowing are used.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay. These soils have less than 5 percent finely divided calcium carbonate. These soils are moderately erodible. Crops can be grown if ordinary measures to control soil blowing are used.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material. These soils have less than 5 percent finely divided calcium carbonate. These soils are very slightly erodible. Crops can be grown if ordinary measures to control soil blowing are used.
8. Soils that are not subject to soil blowing because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to soil blowing, or the tons per acre per year that can be expected to be lost to soil blowing. There is a close correlation between soil blowing and the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence soil blowing.

Cation-exchange capacity is 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. 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. Soils having a high cation-exchange capacity can retain cations. The ability to retain cations helps to prevent the pollution of ground water.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major 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 soil. 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 given as the percent, by weight, of hydrated calcium sulfates in the soil. Gypsum is partially soluble in water and can be dissolved and removed by water. Soils that have a high content of gypsum (more than 10 percent) 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 the soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio is the measure of sodium relative to calcium and magnesium in the water extract from saturated soil paste. Soils having a sodium adsorption ratio of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 12, "Water Features" gives estimates of several important water features used in land use planning that involves engineering considerations. These features are described in the following paragraphs.

Hydrologic soil groups are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a seasonal high water table, the intake rate, permeability after prolonged wetting, and the depth to a very slowly permeable layer. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil layers.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very 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 or well drained soils that have a moderately fine 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 that have a moderately fine 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 clayey soils that have a high shrink-swell potential, soils that have a permanent 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.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding.

Standing water in marshes and swamps or in closed depressions is considered to be ponding.

Table 12, "Water Features," gives the frequency and duration of flooding and the time of year when flooding is most likely to occur. Frequency, duration, and probable dates of occurrence are estimated. Frequency generally is expressed as none, rare, occasional, or frequent. *None* means flooding is not probable; *rare* that it is unlikely but is possible under unusual weather conditions (the chance of flooding is nearly 0 percent 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); and *frequent* that it occurs often under normal weather conditions (the chance of flooding is 50 percent in any year). The term *common* includes both frequent and occasional flooding.

Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days). The time of year that flooding is most likely to occur is expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding 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 level 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.

High water table (seasonal) is a zone of saturation at the highest average depth during the wettest season. It is at least 6 inches thick, persists in the soil for more than a few weeks, and is within 6 feet of the surface. Indicated in table 12, "Water Features," are the depth to the seasonal high water table, the kind of water table, and the months of the year when the water table usually is highest.

An *apparent* water table is indicated by the level at which water stands in a freshly dug, unlined borehole after adequate time for adjustments in the surrounding soil.

A *perched* water table is one that is above an unsaturated zone in the soil. The basis for determining that a water table is perched may be general knowledge of the area. The water table is proven to be perched if the water level in a borehole is observed to fall when the borehole is extended.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation.

Soil Features

Table 13, "Soil Features," gives estimates of several important soil features used in land use planning that involves engineering considerations. These features are described in the following paragraphs.

Depth to bedrock is given if bedrock is within a depth of 60 inches. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

A *cemented pan* is a nearly continuous layer of indurated or strongly cemented material that is hard and brittle. The particles are held together by cementing substances, such as calcium carbonate and oxides of silicon, iron, or aluminum. Pans are identified when they are within a depth of 60 inches. They are classified as thin or thick. A *thin* pan can be excavated by trenching machines, backhoes, small rippers, and other equipment commonly used to dig excavations for pipelines, sewer lines, and graves. A *thick* pan is so thick or massive that blasting or special equipment is needed when excavations are made.

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. Table 13, "Soil Features," shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential 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 mainly to pavements and other rigid structures.

A *low* potential for frost action indicates that the soil is rarely susceptible to the formation of ice lenses; a *moderate* potential indicates that the soil is susceptible to formation of ice lenses, resulting in frost heave and the subsequent loss of soil strength; and a *high* potential indicates that the soil is highly susceptible to formation of ice lenses, resulting in frost heave and the subsequent loss of soil strength.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves 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 in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel 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 is also 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

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 narrow valley upon a plain, or of a tributary stream near or at its junction with its main stream.

Alluvial flat. A nearly level, graded, alluvial surface in bolsons and semi-bolsons. Commonly, an alluvial flat does not manifest terraces or floodplain levels.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipridyl. 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.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Argillite. Weakly metamorphosed mudstone or shale.

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 3.5
Low	3.5 to 5
Moderate	5 to 7.5
High	more than 7.5

Avalanche chute. The track or path formed by an avalanche.

Back slope. The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Back slopes in profile are commonly steep, are linear, and may or may not include cliff segments.

Backswamp. A floodplain landform of extensive, marshy, or swampy, depressed areas of flood

plains between natural levees and valley sides or terraces.

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.

Ballena. A fan remnant having a distinctively-rounded surface of fan alluvium. The ballena's broadly rounded shoulders meet from either side to form a narrow summit and merge smoothly with concave, short pediments which form smoothly-rounded drainageways between adjacent ballenas. A partial ballena is a fan remnant large enough to retain some relict fan surface on a remnant summit.

Barrier beach. A wide gently sloping portion of a bolson floor comprising numerous, parallel, relict longshore-bars and lagoons built by a receding pluvial lake.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation-exchange capacity.

Basin floor. A general term for the nearly level, lower-most part of intermontane basins (i.e., bolson, semi-bolsons). The basin floor includes all of the alluvial, eolian, and erosional landforms below the piedmont slope.

Beach terrace. The relict shorelines from pluvial lakes, generally restricted to valley sides.

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 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.

Board foot. A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board one foot wide, one foot long, and one inch thick before finishing.

Bolson. A landscape term for an internally drained intermontane basin into which drainages from surrounding mountains converge inward toward a central depression.

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.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caldera. A large, more or less circular depression, formed by explosion and/or collapse, which surrounds a volcanic vent or vents, and whose diameter is much greater than that of the included vent, or vents.

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 a 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.

Channeled. Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

Channery soil material. Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. 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.

Clayey soil. Silty clay, sandy clay, or clay.

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.

Clearcut. A method of forest harvesting that removes the entire stand of trees in one cutting. Reproduction is achieved artificially or by natural seeding from adjacent stands.

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.

Closed depression. A low area completely surrounded by higher ground and having no natural outlet.

Coarse fragments. Mineral or rock particles larger than 2 millimeters in diameter.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded, partly rounded, or angular fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that is 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 is 35 to 60 percent of these rock fragments, and extremely cobbly soil material is more than 60 percent.

Codominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

Colluvium. Unconsolidated, unsorted earth material moved and deposited by mass movement on sideslopes and at the base of slopes.

Commercial forest. Forest land capable of producing 20 cubic feet or more per acre per year at the culmination of mean annual increment.

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.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane that typically takes 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.

Conglomerate. A coarse grained, clastic rock composed of rounded to 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 soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but, for many, it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). 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.

Deep soil. A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

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.

Dominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above and from the sides.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A mound, ridge, or hill of loose, windblown granular material (generally sand), either bare or covered with vegetation.

Ecological Site. A distinctive kind of rangeland or grazed forestland that has a unique historic potential native plant community. Ecological sites are the products of all the environmental factors that affect their development. An ecological site is capable of supporting a native plant communty that has a unique kind and/or proportion of species or total vegetative production. Ecological sites in grazed forestland include both overstory and understory vegetation.

Effervescence. The quality of a soil measured when drops of diluted (1:10) hydrochloric acid (HCL) are added to the soil. The ratings are as follows:

Very slightly effervescent	few bubbles
Slightly effervescent	bubbles readily
Strongly effervescent	bubbles form low foam
Violently effervescent	bubbles form thick foam quickly

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.

Even aged. Refers to a stand of trees in which only small differences in age occur between the individuals. A range of 20 years is allowed.

Excess alkali (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sodium (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Excess sulfur (in tables). Excessive amount of sulfur in the soil. The sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.

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 apron. A sheet-like mantle of relatively young alluvium covering part of an older fan piedmont surface. It somewhere buries a soil that can be traced to the edge of the fan apron.

Fan piedmont. The most extensive landform on piedmont slopes, formed by the coalescence of alluvial fans or accretions of fan aprons into one generally smooth slope.

Fan remnant. A general term for landforms that are remaining parts of older fan-landforms, that either have been dissected or partially buried.

Fan skirt. The zone of smooth, laterally-coalescing, small alluvial fans that issue from gullies cut into the fan piedmont or that are the coalescing extensions of inset fans of the fan piedmont, and that merge with the basin floor.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of

specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of fire fighters 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 is, by volume, 15 to 35 percent flagstones. Very flaggy soil material is 35 to 60 percent flagstones, and extremely flaggy soil material is 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.

Foot slope. The inclined surface at the base of a hill.

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.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

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. The microrelief of clayey soils that shrink and swell considerably with changes in moisture content. Usually manifested as a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope.

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 is 15 to 50 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 underlying 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.

Gypsum. A mineral consisting of hydrous calcium sulfate.

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.

Heavy metal. Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form oxides and hydroxides that are basic. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

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.

Holocene. The epoch of the Quaternary Period of geologic time, extending from the end of the Pleistocene Epoch (about 10 to 12 thousand years ago) to the present.

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. 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 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.

Inset fan. A special case of the flood plain of an ephemeral stream that is confined between fan remnants, basin-floor remnants, ballenas, or closely opposed fan toeslopes.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Intermontane basin. A generic term for wide structural depressions between mountain ranges that are partly filled with alluvium. They may be drained internally (bolsons) or externally (semi-bolsons).

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.

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lagoon. The nearly level, filled depression behind the longshore bar on a barrier beach.

Lake plain. A surface marking the floor of an extinct lake, filled in by well sorted, stratified sediments.

Lake terrace. The narrow shelf produced along a lake shore and later exposed when the water recedes.

Lamella. A thin, generally horizontal layer of fine material illuviated within a very much thicker, coarser, eluviated layer.

Landform. Any recognizable form or feature on the earth's surface, having a characteristic shape, and produced by natural causes that provide an empirical description of similar portions of the earth's surface.

Landscape. A collection of related, natural landforms.

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.

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.

Loamy soil. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Longshore bar. A narrow, elongate, coarse-textured ridge, built by the wave action of a pluvial lake, that extends parallel to the shore and separated it from a lagoon; both the bar and lagoon are now relict features.

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.

Mean annual increment (MAI). The average annual increase in volume of a tree during the entire life of the tree.

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.

Merchantable trees. Trees that are of sufficient size to be economically processed into wood products.

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 deep soil. A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance--*few, common,* and *many*; size--*fine, medium,* and *coarse*; and contrast--*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 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 between 6.6 and 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.

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.

Observed rooting depth. Depth to which roots have been observed to penetrate.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Overstory. The trees in a forest that form the upper crown cover.

Oxbow. The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.

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.

Parna dune. An eolian dune built of sand size aggregates of clayey material that commonly occurs leeward of a playa.

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.

Pediment. A gently sloping erosional surface developed at the foot of a receding hill or mountain slope.

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 downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

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:

Extremely slow	0.00 to 0.01 inch
Very slow	0.01 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.)

Piedmont slope. The dominant slope at the foot of a mountain. Main components of the piedmont slope include pediments, alluvial fans, fan piedmonts, fan skirts and inset fans.

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.

Pleistocene. The epoch of the Quaternary Period of geologic time preceding the Holocene (from aproximately 2 million to 10 thousand years ago).

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Pluvial. Relating to former periods of abundant rains.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

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.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

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.

Quartzite, metamorphic. Rock consisting mainly of quartz that formed through recrystallization of quartz-rich sandstone or chert.

Quaternary. The period of geologic time, extending from about 2 million years ago to the present and comprising two epochs, the Pleistocene (Ice Age) and Holocene (Recent).

Quartzite, sedimentary. Very hard but unmetamorphosed sandstone consisting chiefly of quartz grains.

Range condition. The present composition of the plant community on a range site in relation to the potential natural plant community for that site. Range condition is expressed as excellent, good, fair, or poor on the basis of how much the present plant community has departed from the potential.

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.

Range site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range 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 range sites in kind or proportion of species or total production.

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 (mildly alkaline)	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regeneration. The new growth of a natural plant community, developing from seed.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relict stream terrace. One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

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 is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Riverwash. Unstable areas of sandy, silty, clayey, or gravelly sediments. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

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.

Rock outcrop. Exposures of bare bedrock other than lava flows and rock-lined pits.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Rubble land. Areas that have more than 90 percent of the surface covered by stones or boulders. Voids contain no soil material and virtually no vegetation other than lichens. The areas commonly are at the base of mountain slopes, but some are on mountain slopes as deposits of cobbles, stones, and boulders left by Pleistocene glaciation or by periglacial phenomena.

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 groundwater runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Salinity. The electrical conductivity of a saline soil. It is expressed, in millimhos per centimeter, as follows:

Nonsaline	0 to 2
Very slightly saline	2 to 4
Slightly saline	4 to 8

Moderately saline.....8 to 16
Strongly saline.....More than 16

Salty water (in tables). Water that is too salty for consumption by livestock.

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.

Sand sheet. A large, irregularly shaped, surficial mantle of eolian sand.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy soil. Sand or loamy sand.

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.

Sawlogs. Logs of suitable size and quality for the production of lumber.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Scribner's log rule. A method of estimating the number of board feet that can be cut from a log of a given diameter and length.

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.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Semi-bolson. An intermontane basin that is drained externally by an intermittent stream.

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.

Shallow soil. A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shelterwood system. A forest management system requiring the removal of a stand in a series of cuts so that regeneration occurs under a partial canopy. After regeneration, a final cut removes the shelterwood and allows the stand to develop in the open as an even-aged stand. The system is well suited to sites where shelter is needed for regeneration, and it can aid regeneration of the more intolerant tree species in a stand.

Shoulder slope. The uppermost inclined surface at the top of a hillside. It is the transition zone from the back slope to the summit of a hill or mountain. 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.

Shrub-coppice dune. A small dune that forms around shrubs or small trees.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

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 class. A grouping of site indexes into five to seven production capability levels. Each level can be represented by a site curve.

Site curve (50-year). A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for the range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 50 years old or are 50 years old at breast height.

Site curve (100-year). A set of related curves on a graph that shows the average height of dominant or dominant and codominant trees for a range of ages on soils that differ in productivity. Each level is represented by a curve. The basis of the curves is the height of dominant or dominant and codominant trees that are 100 years old or are 100 years old at breast height.

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.

Skid trails. Pathways along which logs are dragged to a common site for loading onto a logging truck.

Slash. The branches, bark, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

Slickens. Accumulations of fine-textured material, such as material separated in placer-mine and ore-mill operations. Slickens from ore mills commonly consist of freshly ground rock that has undergone chemical treatment during the milling process.

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.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, the following slope classes are recognized:

Nearly level	0 to 2 percent
Gently sloping	2 to 4 percent
Moderately sloping	4 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 30 percent
Steep	30 to 50 percent
Very steep	50 to 75 percent
Extremely steep	75 percent and higher

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of 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 $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Very slight	5-12:1
Slight	13-30:1
Moderate	31-45:1
Strong	46-90:1
Very strong	more than 90:1

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.

Species. A single, distinct kind of plant or animal having certain distinguishing characteristics.

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.

Strath terrace. A surface cut formed by the erosion of hard or semiconsolidated bedrock and thinly mantled with stream deposits.

Stream channel. The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to soil blowing 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 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. A general term for the top, or highest level, of an upland feature, such as a hill or mountain. It commonly refers to a higher area that has a gentle slope and is flanked by steeper slopes.

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.

Tailwater. The water directly downstream of a structure.

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.

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 is generally 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). A step-like surface, ordinarily flat or undulating, bordering a river, a lake, or the sea representing a former flood plain.

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 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.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Too arid (in tables). The soil is dry most of the time, and vegetation is difficult to establish.

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.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Trafficability. The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

Tread. The relatively flat terrace surface that was cut or built by stream or wave action.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Understory. Any plants in a forest community that grow to a height of less than 5 feet.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley. An elongated depressional area primarily developed by stream action.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Very deep soil. A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Very shallow soil. A soil that is less than 10 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

Waterspreading. Diverting runoff from natural channels by means of a system of dams, dikes,

or ditches and spreading it over relatively flat surfaces.

Water supplying capacity. The total amount of water available in the soil for plant growth in a normal year from precipitation and from runon from higher areas. Runoff and water lost to deep percolation are not included.

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 ovendry basis, at which a plant (specifically, a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

TABLES

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1961-90 at Montello, Nevada)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have: Maximum temperature higher than--	2 years in 10 will have: Minimum temperature higher than--	Average number of growing degree days*	Average	2 years in 10 will have--: less than	2 years in 10 will have--: more than	Average number of days with 0.10 inch or more	Total snow fall
January	36.1	9.4	22.8	55	-22	4	0.43	0.19	0.70	1	4.5
February	41.7	16.3	29.0	60	-10	6	0.44	0.19	0.74	1	2.8
March	50.7	23.0	36.8	71	5	44	0.60	0.21	0.93	2	1.7
April	61.2	27.7	44.5	82	10	168	0.58	0.21	0.92	1	0.6
May	71.4	36.1	53.7	93	18	401	1.02	0.25	1.63	3	0.0
June	81.8	44.2	63.0	100	28	637	1.11	0.37	1.78	3	0.0
July	92.8	50.2	71.5	103	36	931	0.69	0.26	1.14	2	0.0
August	89.9	48.2	69.1	102	31	852	0.71	0.18	1.22	2	0.0
September	79.1	38.0	58.5	95	18	539	0.67	0.16	1.15	1	0.0
October	65.5	27.3	46.4	85	8	225	0.55	0.21	0.99	1	0.2
November	48.3	19.6	34.0	68	-4	27	0.66	0.31	1.05	2	1.2
December	37.1	10.7	23.9	56	-17	2	0.46	0.17	0.81	2	3.9
Yearly :											
Average	63.0	29.2	46.1	---	---	---	----	----	----	---	---
Extreme	106	-32	---	104	-24	---	----	----	----	---	---
Total	---	---	---	---	---	3,837	7.91	5.07	9.70	21	14.9

Average number of days per year with at least 1 inch of snow on the ground: 7

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minumum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1961-90 at Wells, Nevada)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
				2 years in 10 will have				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature higher than--	Average number of growing degree days*	Average	less than	more than	Average number of days with 0.10 inch or more	Total snow fall
January	35.3	10.6	22.9	55	-21	2	0.78	0.30	1.19	2	9.1
February	40.1	16.2	28.2	59	-16	7	0.78	0.29	1.19	2	8.1
March	46.8	22.2	34.5	67	-5	31	0.95	0.43	1.40	3	8.8
April	56.5	27.2	41.9	77	8	123	0.94	0.39	1.40	3	5.0
May	66.3	34.4	50.4	86	15	332	1.21	0.45	1.84	3	2.0
June	77.0	41.8	59.4	95	25	581	1.10	0.24	1.76	3	0.1
July	87.3	47.8	67.5	97	33	853	0.50	0.16	0.80	1	0.0
August	84.9	45.7	65.3	96	28	784	0.60	0.14	1.00	1	0.0
September	74.9	36.6	55.7	90	16	475	0.91	0.26	1.61	2	0.1
October	62.6	27.3	45.0	81	6	196	0.80	0.24	1.31	2	1.4
November	46.3	20.6	33.5	68	-6	29	1.05	0.52	1.51	3	6.5
December	36.1	11.4	23.8	55	-21	3	0.99	0.23	1.59	3	11.3
Yearly :											
Average	59.5	28.5	44.0	---	---	---	----	----	----	---	---
Extreme	98	-36	---	98	-25	---	----	----	----	---	---
Total	---	---	---	---	---	3,417	10.61	7.91	13.08	28	52.4

Average number of days per year with at least 1 inch of snow on the ground: 68

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minumum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1961-90 at Montello, 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 23	June 15	June 27
2 years in 10 later than--	May 17	June 7	June 20
5 years in 10 later than--	May 6	May 23	June 6
First freezing temperature in fall:			
1 year in 10 earlier than--	September 10	September 1	August 23
2 years in 10 earlier than--	September 16	September 8	August 29
5 years in 10 earlier than--	September 28	September 19	September 9

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1961-90 at Wells, 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--	June 6	June 20	July 8
2 years in 10 later than--	May 30	June 13	July 2
5 years in 10 later than--	May 16	May 29	June 19
First freezing temperature in fall:			
1 year in earlier than--	September 4	August 23	August 11
2 years in 10 earlier than--	September 11	August 31	August 18
5 years in 10 earlier than--	September 24	September 14	August 29

TABLE 3.--GROWING SEASON

(Recorded in the period 1961-90 at Montello, Nevada)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	Days	Days	Days
9 years in 10	118	91	67
8 years in 10	127	101	77
5 years in 10	144	120	97
2 years in 10	161	139	116
1 year in 10	170	149	127

TABLE 3.--GROWING SEASON

(Recorded in the period 1948-93 at Wells, Nevada.)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	Days	Days	Days
9 years in 10	94	68	35
8 years in 10	105	79	45
5 years in 10	125	100	65
2 years in 10	145	120	85
1 year in 10	156	131	96

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
10	Yuko-Akler association	2,800	0.1
20	Donna-Igdell-Vanwyper association	5,105	0.2
21	Donna-Stampede association	7,955	0.4
22	Donna-Igdell-Donna, strongly sloping association	10,120	0.5
23	Donna-Kleckner-Donna, strongly sloping association	2,000	*
31	Welch-Crooked Creek association, wet	4,900	0.2
32	Welch-Kelk association	770	*
34	Welch-Crooked Creek association, dry	5,525	0.3
35	Welch, drained-Welch-Gochea association	3,675	0.2
40	McIvey-Quarz association	3,700	0.2
60	Coser-Arva-Lerrow association	12,770	0.6
70	Stampede-Donna association	14,940	0.7
72	Stampede-Simon-Arva association	4,875	0.2
80	Wieland-Chiara-Puett association	3,695	0.2
81	Wieland-Gance-Nevador association	1,820	*
82	Wieland-Hunnton-Hunewill association	6,745	0.3
83	Wieland-Nevador-Donna association	1,190	*
90	Hunnton-Chiara-Bilbo association	3,150	0.2
93	Hunnton-Wieland association	15,130	0.7
94	Hunnton-Chiara-Wieland association	3,660	0.2
120	Peeko-Dewar-Puett association	13,250	0.6
121	Peeko-Dewar-Peeko, moderately steep association	10,435	0.5
123	Peeko-Oupico-Dewar association	6,380	0.3
124	Peeko-Peeko, moderately steep-Gance association	3,050	0.1
125	Peeko-Chiara-Puett association	2,420	0.1
126	Peeko-Zapa association	19,225	0.9
127	Peeko-Chiara association	9,830	0.5
129	Dewar-Chuska association	4,240	0.2
130	Dewar-Wieland-Bilbo association	10,925	0.5
131	Dewar-Hunnton-Gance association	15,190	0.7
132	Dewar-Peeko-Bilbo association	1,370	*
133	Dewar-Chiara-Hunnton association	25,980	1.2
135	Dewar-Yuko association	11,330	0.5
136	Dewar-Nevador-Hundraw association	3,810	0.2
137	Dewar-Gochea association	6,810	0.3
138	Dewar-Jackpot-Dewar, moderately sloping association	4,405	0.2
139	Dewar-Yuko-Izar association	1,380	*
140	Chiara-Wieland-Enko association	4,250	0.2
141	Chiara-Kelk-Kelk, rarely flooded association	2,190	0.1
144	Chiara-Dewar-Enko association	8,785	0.4
150	Shalper-Tusel-Shalcleav association	2,170	0.1
151	Shalper-Soughe association	7,085	0.3
154	Shalper-Contact-Rock outcrop association	5,740	0.3
155	Shalper-Rock outcrop-Pequop association	4,875	0.2
156	Shalper-Dewar-Yuko association	3,255	0.2
160	Dacker-Nevador-Kelk association	5,200	0.2
161	Dacker-Yuko-Wieland association	665	*
163	Dacker-Chiara-Peeko association	12,350	0.6
170	Enko-Kelk-Enko, nearly level association	9,115	0.4
171	Enko-Chiara-Kelk association	5,600	0.3
174	Enko-Jericho association	4,060	0.2
175	Wiffo-Nevador association	27,190	1.3
180	Sonoma-Devilsgait-Sonoma, strongly saline-sodic association	2,680	0.1
182	Sonoma-Devilsgait-Sonoma, occasionally flooded association	2,520	0.1
183	Sonoma-Sonoma, occasionally flooded association	3,925	0.2
185	Sonoma-Ocala Variant association	1,245	*
186	Sondoa-Ixian-Ixian, strongly saline-sodic association	9,850	0.5
187	Sonoma-Deleplain-Ocala association	3,010	0.1
190	Forvic-Igdell association	4,710	0.2
191	Forvic-Chayson-Igdell association	2,778	0.1
195	Chayson-Igdell association	14,290	0.7

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
211	Crooked Creek, drained-Crooked Creek-Welch association	2,215	0.1
219	Shalcleav-Arcia association	1,020	*
220	Shalcleav-Cleavage-Arcia association	5,145	0.2
221	Shalcleav-Cleavage-Shalcleav, moderately steep association	2,130	0.1
222	Shalcleav-Coser association	2,050	*
223	Shalcleav-Gollaher-Hapgood association	13,275	0.6
224	Shalcleav-Graley-Arcia association	5,390	0.3
225	Shalcleav-Rodie-Lerrow association	5,825	0.3
226	Shalcleav-Quopant-Rodie association	3,760	0.2
227	Shalcleav, steep-Shalcleav-Rodie association	5,695	0.3
228	Shalcleav-Rodie-Shalper association	2,030	*
229	Shalcleav-Shalper-Cleavage association	2,585	0.1
232	Shalcleav-Quarz association	38,980	1.9
235	Shalcleav-Shalper association	13,815	0.7
236	Shalcleav-McIvey association	14,710	0.7
237	Shalcleav-Gollaher-Keman association	23,415	1.1
238	Shalcleav-Hapgood-Arcia association	3,125	0.1
239	Shalcleav-Tweener-Rock outcrop association	1,815	*
240	Gumble-Shalper-Izar association	12,290	0.6
250	Chuska-Chuska, strongly sloping-Soughe association	6,885	0.3
251	Chuska-Dewar-Enko association	2,775	0.1
252	Chuska-Jackpot-Soughe association	6,360	0.3
253	Chuska-Jackpot-Dewar association	11,700	0.6
260	Bancy-Heckison association	9,590	0.5
270	Cameek-Bilbo-Cameek, gently sloping association	1,610	*
280	Quarz-Shalper-Shalcleav association	4,375	0.2
281	Quarz-Cotant association	2,450	0.1
282	Quarz, steep-Quarz-Arcia association	1,150	*
290	Gochea-Vadaho association	2,870	0.1
291	Gochea-Simon association	980	*
300	Ola, steep-Earcree-Ola association	6,700	0.3
310	Agort-Xica, sandy loam-Xica association	12,225	0.6
320	Hussell-Nevador association	7,840	0.4
340	Xipe-Valmy-Ocala association	3,260	0.2
341	Xipe-Batan-Devilsgait association	1,330	*
380	Elhina gravelly loam, 2 to 8 percent slopes	2,220	0.1
400	Zapa, moderately steep-Zapa-Chuska association	5,095	0.2
401	Zapa-Izar-Shalper association	5,360	0.3
403	Zapa-Puett-Shalper association	3,875	0.2
404	Zapa-Peeko-Oupico association	6,430	0.3
405	Zapa, steep-Zapa-Hundraw association	1,065	*
406	Zapa-Pibler association	3,745	0.2
407	Zapa-Enko association	2,445	0.1
410	Coser-McIvey-Cleavage association	5,295	0.3
411	Coser-Coser, moderately steep-McIvey association	4,850	0.2
412	Coser-Coser, moderately steep-Lerrow association	2,750	0.1
414	Coser-Forvic-Scalfar association	10,480	0.5
415	Coser-Cleavage-Pequop association	3,090	0.1
417	Coser-Fez-Quopant association	8,300	0.4
418	Rodie-Rubble land-Sumine association	14,135	0.7
419	Rodie-Shalcleav-Pequop association	4,680	0.2
420	Rodie-Shalcleav-Agassiz association	4,275	0.2
421	Rodie-Shalcleav-Keman association	3,630	0.2
422	Rodie-Quarz-Shalcleav association	1,675	*
423	Quopant-Coser-Lerrow association	4,400	0.2
430	Ocala-Kelk association	685	*
431	Ocala-Batan-Devilsgait association	5,100	0.2
432	Ocala-Ixian association	6,065	0.3
462	Graley-Chen-Arcia association	3,455	0.2
470	Chen-Graley-Rock outcrop association	1,840	*
472	Chen-Coser association	2,685	0.1

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
473	Chen-Shalper-Shalcleav association	3,135	0.1
474	Chen-Shalcleav-Vitale association	2,600	0.1
480	Devilsgait-Kelk association	4,405	0.2
481	Devilsgait-Batan-Devilsgait, drained association	2,185	0.1
482	Devilsgait silt loam, frequently flooded, 0 to 2 percent slopes	1,685	*
483	Devilsgait-Valmy association	5,400	0.3
490	Loncan-Sumine association	1,880	*
520	Halleck silt loam, frequently flooded, 0 to 2 percent slopes	2,170	0.1
521	Halleck, gravelly substratum-Halleck association	1,290	*
530	Ekim-Gollaher-Loncan association	1,040	*
540	Sumine-Hapgood-Gollaher association	2,935	0.1
541	Sumine-Cleavage-Bullump association	6,490	0.3
542	Sumine-Cleavage-Hackwood association	2,500	0.1
543	Sumine-Pernty-Tusel association	145	*
550	Bullump-Sumine-Hapgood association	1,385	*
560	Amene-Belsac-Onkeyo association	5,455	0.3
561	Amene-Ekim-Agassiz association	2,620	0.1
570	Tusel-Belsac Variant association	2,085	*
580	Kelk-Sonoma association	2,005	*
582	Kelk-Devilsgait-Welch association	1,225	*
585	Valmy-Luap association	2,880	0.1
590	Valmy-Enko association	11,830	0.6
610	Grina-Gochea association	2,300	0.1
620	Vadaho-Vadaho, strongly sloping association	15,250	0.7
621	Vadaho-Vadaho, moderately steep-Stampede association	5,085	0.2
631	Pernty-McIvey-Gollaher association	1,295	*
632	Pernty-Sumine-Shalcleav association	2,465	0.1
633	Pernty-Tweener-Rock outcrop association	1,735	*
651	Scalfar-Cleavage-Hackwood association	4,695	0.2
652	Scalfar-Shalcleav-Quopant association	4,745	0.2
655	Scalfar-Hapgood association	9,265	0.4
656	Scalfar-Fenelon-Booford association	6,425	0.3
660	Hooplite, steep-Hooplite association	6,150	0.3
661	Hooplite-Hooplite, moderately steep-Ackett association	1,165	*
662	Hooplite-Peeko-Zapa association	3,250	0.2
664	Hooplite-Hooplite, moderately steep-Kram association	3,065	0.1
665	Hooplite, moderately steep-Hooplite-Izar association	3,170	0.2
666	Hooplite-Hooplite, moderately steep-Kleckner association	2,455	0.1
670	Ackett-Kleckner-Anowell association	2,315	0.1
672	Ackett-Ackett, gently sloping-Cameek association	5,035	0.2
673	Ackett-Ackett, gently sloping-Gance association	10,850	0.5
674	Ackett-Zapa association	12,660	0.6
678	Izar, moderately steep-Izar association	6,620	0.3
679	Izar-Dewar-Izar, moderately steep association	6,985	0.3
680	Izar-Holborn-Kzin association	6,615	0.3
681	Izar-Loomis-Vanwyper association	1,145	*
682	Izar-Zapa-Peeko association	5,910	0.3
683	Izar-Holborn-Hundraw association	1,740	*
684	Izar-Rock outcrop association	1,095	*
685	Izar-Puett-Yuko association	7,645	0.4
686	Izar-Vanwyper association	1,270	*
687	Izar-Wiffo association	1,685	*
688	Izar-Yuko association	3,940	0.2
689	Izar-Zapa-Puett association	6,360	0.3
690	Oupico-Oupico, moderately steep-Peeko association	3,665	0.2
691	Oupico-Enko association	12,645	0.6
700	Xica-Shalcleav-Hapgood association	1,100	*
701	Xica-Xica, steep-Agort association	13,835	0.7
730	Geysen-Welch-Batan association	1,045	*
731	Geysen-Crooked Creek-Batan association	1,215	*
742	Cleavage extremely gravelly loam-Cleavage-Vitale association	23,920	1.1

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
743	Cleavage-Cleavage extremely gravelly loam association	3,000	0.1
744	Cleavage-Graley-Hapgood association	3,210	0.2
745	Cleavage-Graley-Shalcleav association	25,755	1.2
746	Cleavage-Hackwood-Graley association	10,120	0.5
747	Cleavage-Keman-Hogmalat association	15,170	0.7
748	Cleavage-Shalcleav-Quopant association	4,375	0.2
749	Cleavage-Snotown-Chen association	9,735	0.5
750	Cleavage-Bullump-Hackwood association	5,375	0.3
751	Cleavage-Cleavage extremely gravelly loam-Hapgood association	8,710	0.4
752	Cleavage-Arcia-Lerrow association	7,680	0.4
753	Cleavage-Shalper-Rock outcrop association	2,825	0.1
754	Cleavage-Cleavage extremely gravelly loam-Sumine association	13,535	0.6
755	Cleavage-Sumine-Hapgood association	8,605	0.4
756	Cleavage-Sumine-Pernty association	10,520	0.5
757	Cleavage-Sumine-Snotown association	6,340	0.3
758	Cleavage-Tweener-Graley association	6,380	0.3
759	Cleavage-Tweener-Scalfar association	6,435	0.3
760	Jericho-Peeko-Izar association	24,515	1.2
761	Jericho-Gance association	4,030	0.2
762	Jericho-Peeko-Gance association	4,060	0.2
763	Jericho-Pamison-Peeko association	2,215	0.1
764	Jericho-Jericho silt loam association	3,605	0.2
765	Jericho-Pequop-Yuko association	7,095	0.3
780	Puett-Peeko-Yuko association	1,800	*
781	Puett-Izar-Shalper association	1,465	*
790	Loomis-Ackett-Dewar association	4,580	0.2
796	Gollaher very gravelly loam, 15 to 50 percent slopes	1,445	*
797	Gollaher-Amene association	1,545	*
798	Gollaher-Amene-Hackwood association	4,855	0.2
799	Gollaher-Arcia-Vitale association	1,350	*
801	Gollaher-Amene-Onkeyo association	3,330	0.2
802	Gollaher,steep-Hackwood-Gollaher association	4,090	0.2
804	Gollaher-Onkeyo-Nirac association	13,625	0.7
805	Gollaher-Ekim-Hapgood association	24,180	1.2
806	Gollaher-Shalcleav-Vitale association	7,595	0.4
807	Gollaher-Belsac association	29,295	1.4
808	Gollaher-Cleavage-Hapgood association	25,185	1.2
809	Gollaher-Xica-Shalcleav association	2,290	0.1
810	Igdell-Kleckner association	200	*
820	Cotant-Eboda-Coser association	9,410	0.4
822	Cotant-Chen-Graley association	4,235	0.2
830	Onkeyo-Pequop-Sumine association	1,615	*
850	Pamison-Affey-Pamison, moderately steep association	11,750	0.6
851	Pamison-Amtoft-Coser association	5,290	0.3
880	Heckison-Xerxes-Shalper association	2,730	0.1
881	Gochea-Chayson-Pamison association	3,330	0.2
930	Orovada, nearly level-Kelk-Orovada association	1,815	*
931	Orovada-Oupico-Izar association	2,395	0.1
932	Orovada-Xipe-Ocala association	1,942	*
940	Hundraw-Anowell-Peeko association	5,740	0.3
941	Hundraw-Hundraw, eroded association	4,655	0.2
942	Hundraw-Cobre-Anowell association	5,860	0.3
943	Hundraw-Puett-Cobre association	15,780	0.8
944	Hundraw,eroded-Peeko-Hundraw association	11,350	0.5
945	Hundraw-Izar-Izar, steep association	7,525	0.4
946	Hundraw-Cobre association	4,640	0.2
947	Hundraw-Kelk-Hundraw, eroded association	4,960	0.2
948	Hundraw-Puett-Trinidad association	7,820	0.4
949	Hundraw-Quopant-Shalper association	2,175	0.1
961	Trinidad, steep-Trinidad-Izod association	7,790	0.4
970	Hunewill-Bilbo-Devilsgait association	205	*

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
980	Boso-Dewar association	1,400	*
990	Bluehill-Tomsherry-Xerxes association	23,950	1.1
1010	Agassiz-Croesus-Rubble land association	3,945	0.2
1040	Gravier-Shafter-Toano association	6,210	0.3
1041	Gravier-Wiffo association	3,120	0.1
1042	Gravier-Pibler association	2,275	0.1
1043	Gravier-Luap association	7,660	0.4
1050	Pibler-Pibler, strongly sloping-Izar association	5,465	0.3
1051	Pibler, bedrock substratum-Pibler association	8,080	0.4
1052	Pibler-Gravier association	14,940	0.7
1054	Pibler-Wiffo association	2,640	0.1
1055	Pibler-Gravier-Izar association	3,105	0.1
1056	Pibler-Valmy association	2,325	0.1
1060	Kzin-Holborn-Kzin, eroded association	19,720	0.9
1062	Kzin-Cobre-Jackpot association	1,815	*
1064	Kzin-Golsum-Golsum, eroded association	1,810	*
1070	Loray-Luap-Toano association	16,245	0.8
1071	Loray-Luap association	1,635	*
1072	Loray, loamy fine sand-Loray-Hardhat association	1,595	*
1120	Ashart-Zark association	10,375	0.5
1140	Elocin-Stampede-Donna association	4,120	0.2
1141	Elocin-Donna association	2,525	0.1
1190	Tweener-Shalper-Cleavage association	37,380	1.8
1191	Tweener, steep-Tweener-Graley association	3,050	0.1
1200	Xerxes-Bluehill association	2,650	0.1
1201	Xerxes-Zark-Ashart association	16,635	0.8
1203	Xerxes, moderately steep-Xerxes-Shalper association	4,600	0.2
1204	Xerxes-Shalper-Bluehill association	23,960	1.1
1400	Nevador-Zapa association	3,550	0.2
2000	Shuttle-Shafter-Loray association	2,550	0.1
2001	Shuttle-Hardhat-Shuttle, loamy substratum association	8,395	0.4
2010	Wiffo Variant extremely stony sandy loam, 2 to 8 percent slopes, rarely flooded	1,145	*
2030	Cavehill-Nirac-Gollaher association	4,670	0.2
2040	Sodhouse-Loray association	12,775	0.6
2042	Sodhouse-Pibler association	1,515	*
2050	Hopeka-Tecomar association	4,455	0.2
2051	Hopeka-Kzin-Rock outcrop association	21,025	1.0
2053	Hopeka-Tecomar-Nirac association	3,015	0.1
2054	Hopeka-Rock outcrop association	2,335	0.1
2060	Appian-Kawich, fine sand-Kawich association	3,045	0.1
2070	Kawich-Kawich, fine sand-Ixian association	2,255	0.1
2080	Toano-Toano, occasionally flooded association	3,670	0.2
2081	Toano-Tulase association	9,595	0.5
2090	Toano-Enko-Sondoa association	885	*
3001	Ixian-Valmy association	2,150	0.1
3008	Tecomar-Sumine-Kram association	2,210	0.1
3009	Tecomar-Shalcleav-Gollaher association	1,885	*
3010	Tecomar-Hopeka-Gollaher association	3,750	0.2
3012	Tecomar-Kram-Amtoft association	107,990	5.2
3013	Tecomar-Hopeka-Rock outcrop association	1,915	*
3014	Tecomar-Kzin-Hopeka association	11,120	0.5
3015	Tecomar-Kzin association	4,135	0.2
3016	Tecomar-Izar-Hundraw association	4,300	0.2
3017	Tecomar-Amtoft-Shivlum association	7,985	0.4
3018	Tecomar-Nirac-Kram association	1,800	*
3019	Tecomar-Hopeka-Ekim association	2,265	0.1
3020	Amtoft-Tecomar-Kzin association	8,040	0.4
3021	Amtoft-Tecomar-Rock outcrop association	14,060	0.7
3023	Amtoft-Jericho-Tecomar association	19,125	0.9
3025	Amtoft-Arcia-Kram association	1,845	*
3030	Cobre-Izar-Jackpot association	4,335	0.2

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
3031	Cobre-Hundraw-Jackpot association	10,600	0.5
3032	Cobre-Hundraw-Anowell association	23,770	1.1
3033	Cobre-Hundraw-Zapa association	3,315	0.2
3036	Cobre-Enko association	2,265	0.1
3040	Player-McIvey-Hogmalat association	1,295	*
3070	Arva-Chen-Sumine association	5,120	0.2
3080	Fenelon-Lerrow Variant-Cotant association	2,575	0.1
3081	Fenelon-Gochea association	1,965	*
3100	Kleckner-Stampede association	930	*
4000	Wicup-Anowell-Kzin association	2,315	0.1
4001	Wicup-Fenelon-Akler association	3,640	0.2
4002	Wicup-Gochea-Gumble association	8,210	0.4
4020	Akler-Cleavage-Elocin association	2,545	0.1
4040	Kram-Amtoft-nirac association	9,735	0.5
4041	Kram-Tecomar association	2,415	0.1
4042	Kram-Hooplite-Yuko association	4,075	0.2
4050	Water	2,100	0.1
	Total	2,095,165	100.0

* Less than 0.1 percent.

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE

(Yields are those that can be expected under a high level of irrigated management by component name. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Alfalfa hay	Grass hay
		Tons	Tons
31:			
Welch	5W	---	2.5
Crooked Creek	5W	---	---
32:			
Welch	5W	---	1.0
Kelk	2E	6.0	---
35:			
Welch	3W	---	---
Welch	5W	---	2.5
Gochea	3E	4.0	3.0
129:			
Dewar		---	---
Chuska	4E	4.0	---
137:			
Dewar		---	---
Gochea	3E	4.0	3.0
141:			
Chiara		---	---
Kelk		---	---
Kelk	2S	6.2	---
186:			
Sondoa		---	---
Ixian	4S	---	---

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS

Map symbol and soil name	Land capability	Alfalfa hay	Grass hay
		Tons	Tons
186 (con.):			
Ixian	4S	---	---
250:			
Chuska	4E	4.0	---
Chuska	4E	4.0	---
Soughe		---	---
251:			
Chuska	4E	4.0	---
Dewar		---	---
Enko	4E	---	---
252:			
Chuska	4E	4.0	---
Jackpot		---	---
Soughe		---	---
253:			
Chuska	4E	4.0	---
Jackpot		---	---
Dewar		---	---
290:			
Gochea	3E	4.0	3.0
Vadaho		---	---
291:			
Gochea	3E	4.0	3.0
Simon	4E	---	---
340:			
Xipe	5W	---	2.5

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS

Map symbol and soil name	Land capability	Alfalfa hay	Grass hay
		Tons	Tons
340 (con.):			
Valmy	3E	---	---
Ocala	2W	5.2	---
341:			
Xipe	3W	4.0	3.0
Batan	2E	---	---
Devilsgait	3C	---	---
400:			
Zapa		---	---
Zapa		---	---
Chuska	4E	4.0	---
430:			
Ocala	4W	---	---
Kelk	2S	6.2	---
432:			
Ocala	2W	5.2	---
Ixian	4S	---	---
483:			
Devilsgait	5W	---	---
Valmy	2E	5.2	---
590:			
Valmy	2S	6.0	---
Enko	2E	---	---
731:			
Geysen	3S	---	---
Crooked Creek	3W	---	---

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS

Map symbol and soil name	Land capability	Alfalfa hay	Grass hay
		Tons	Tons
731 (con.):			
Batan	2C	6.2	---
881:			
Gochea	3E	4.0	3.0
Chayson		---	---
Pamison		---	---
930:			
Orovada	2C	6.5	---
Kelk		---	---
Orovada	3E	5.8	---
931:			
Orovada	3E	5.8	---
Oupico		---	---
Izar		---	---
932:			
Orovada	2E	6.5	---
Xipe	5W	---	2.5
Ocala	4W	---	---
2070:			
Kawich	4S	---	---
Kawich		---	---
Ixian	4S	---	---
3001:			
Ixian	4S	---	---
Valmy	3E	---	---

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING

Soil name and map symbol	Limitation rating	Restrictive features
010:		
Yuko	Poorly suited	Too arid, droughty, rooting depth.
Akler	Poorly suited	Droughty, rooting depth.
020:		
Donna	Poorly suited	Droughty, small stones.
Igdell	Poorly suited	Rooting depth.
Vanwyper	Poorly suited	Rooting depth.
021:		
Donna	Poorly suited	Rooting depth.
Stampede	Poorly suited	Rooting depth.
022:		
Donna	Poorly suited	Rooting depth.
Igdell	Poorly suited	Rooting depth.
Donna	Poorly suited	Rooting depth.
023:		
Donna	Poorly suited	Rooting depth.
Kleckner	Poorly suited	Rooting depth.
Donna	Poorly suited	Rooting depth.
031:		
Welch	Well suited	
Crooked creek	Suited	Too clayey.
032:		
Welch	Well suited	
Kelk	Suited	Too arid, excess salt.
034:		
Welch	Suited	Too arid.
Crooked creek	Suited	Too arid, too clayey.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
035:		
Welch	Suited	Too arid.
Welch	Well suited	
Gochea	Suited	Too arid.
040:		
McIvey	Suited	Erodes easily.
Quarz	Poorly suited	Droughty, small stones, rooting depth.
060:		
Coser	Poorly suited	Rooting depth.
Arva	Well suited	
Lerrow	Suited	Too arid, droughty.
070:		
Stampede	Poorly suited	Rooting depth.
Donna	Poorly suited	Rooting depth.
072:		
Stampede	Poorly suited	Rooting depth.
Simon	Suited	Too arid.
Arva	Well suited	
080:		
Wieland	Poorly suited	Rooting depth.
Chiara	Poorly suited	Excess sodium.
Puett	Poorly suited	Too arid, droughty.
081:		
Wieland	Poorly suited	Rooting depth.
Gance	Poorly suited	Small stones, rooting depth.
Nevador	Poorly suited	Rooting depth.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
082:		
Wieland	Poorly suited	Rooting depth.
Hunnton	Poorly suited	Rooting depth.
Hunewill	Suited	Too arid.
083:		
Wieland	Poorly suited	Rooting depth.
Nevador	Poorly suited	Rooting depth.
Donna	Poorly suited	Rooting depth.
090:		
Hunnton	Poorly suited	Rooting depth.
Chiara	Poorly suited	Excess sodium.
Bilbo	Poorly suited	Small stones.
093:		
Hunnton	Suited	Too arid, droughty, excess salt.
Wieland	Poorly suited	Rooting depth.
094:		
Hunnton	Suited	Too arid, droughty, excess salt.
Chiara	Poorly suited	Excess sodium.
Wieland	Poorly suited	Rooting depth.
120:		
Peeko	Poorly suited	Droughty.
Dewar	Poorly suited	Droughty.
Puett	Poorly suited	Too arid, droughty.
121:		
Peeko	Poorly suited	Droughty.
Dewar	Poorly suited	Droughty.
Peeko	Poorly suited	Droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
123:		
Peeko	Poorly suited	Droughty.
Oupico	Suited	Too arid, droughty, excess salt.
Dewar	Poorly suited	Droughty.
124:		
Peeko	Poorly suited	Droughty.
Peeko	Poorly suited	Droughty.
Gance	Poorly suited	Small stones, rooting depth.
125:		
Peeko	Poorly suited	Droughty.
Chiara	Poorly suited	Excess sodium.
Puett	Poorly suited	Too arid, droughty.
126:		
Peeko	Poorly suited	Droughty.
Zapa	Poorly suited	Droughty, small stones.
127:		
Peeko	Poorly suited	Droughty.
Chiara	Poorly suited	Excess sodium.
129:		
Dewar	Poorly suited	Droughty.
Chuska	Poorly suited	Droughty.
130:		
Dewar	Poorly suited	Droughty.
Wieland	Poorly suited	Rooting depth.
Bilbo	Poorly suited	Small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
131:		
Dewar	Poorly suited	Droughty.
Hunnton	Poorly suited	Rooting depth.
Gance	Poorly suited	Small stones, rooting depth.
132:		
Dewar	Poorly suited	Droughty.
Peako	Poorly suited	Droughty.
Bilbo	Poorly suited	Small stones.
133:		
Dewar	Poorly suited	Droughty.
Chiara	Poorly suited	Excess sodium.
Hunnton	Poorly suited	Rooting depth.
135:		
Dewar	Poorly suited	Droughty.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
136:		
Dewar	Poorly suited	Droughty.
Nevador	Poorly suited	Rooting depth.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
137:		
Dewar	Poorly suited	Droughty.
Gochea	Suited	Too arid.
138:		
Dewar	Poorly suited	Droughty.
Jackpot	Suited	Too arid, depth to rock.
Dewar	Poorly suited	Droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
139:		
Dewar	Poorly suited	Droughty.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
Izar	Poorly suited	Droughty, small stones.
140:		
Chiara	Poorly suited	Excess sodium.
Wieland	Poorly suited	Rooting depth.
Enko	Suited	Too arid, excess salt, excess sodium.
141:		
Chiara	Poorly suited	Excess sodium.
Kelk	Suited	Too arid, excess salt.
Kelk	Suited	Too arid, excess salt.
144:		
Chiara	Poorly suited	Excess sodium.
Dewar	Poorly suited	Droughty.
Enko	Suited	Too arid, excess salt, excess sodium.
150:		
Shalper	Poorly suited	Too arid, droughty, small stones.
Tusel	Poorly suited	Small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
151:		
Shalper	Poorly suited	Too arid, droughty, small stones.
Soughe	Poorly suited	Too arid, droughty, small stones.
154:		
Shalper	Poorly suited	Too arid, droughty, small stones.
Contact	Poorly suited	Droughty, too sandy.
Rock outcrop	Not rated	

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
155:		
Shalper	Poorly suited	Too arid, droughty, small stones.
Rock outcrop	Not rated	
Pequop	Suited	Too arid.
156:		
Shalper	Poorly suited	Too arid, droughty, small stones.
Dewar	Poorly suited	Droughty.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
160:		
Dacker	Suited	Too arid, droughty, excess salt.
Nevador	Poorly suited	Rooting depth.
Kelk	Suited	Too arid, excess salt.
161:		
Dacker	Suited	Too arid, droughty, excess salt.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
Wieland	Poorly suited	Rooting depth.
163:		
Dacker	Suited	Too arid, droughty, excess salt.
Chiara	Poorly suited	Excess sodium.
Peeko	Poorly suited	Droughty.
170:		
Enko	Suited	Too arid, excess salt, excess sodium.
Kelk	Suited	Too arid, excess salt.
Enko	Suited	Too arid, excess salt.
171:		
Enko	Suited	Too arid, excess salt, excess sodium.
Chiara	Poorly suited	Excess sodium.
Kelk	Suited	Too arid, excess salt.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
174:		
Enko	Suited	Too arid, excess salt, excess sodium.
Jericho	Poorly suited	Too arid, droughty.
175:		
Wiffo	Poorly suited	Small stones.
Nevador	Poorly suited	Rooting depth.
180:		
Sonoma	Suited	Too arid, excess salt, excess sodium.
Devilsgait	Suited	Too arid, excess salt.
Sonoma	Poorly suited	Excess salt, excess sodium.
182:		
Sonoma	Suited	Too arid, excess salt, excess sodium.
Devilsgait	Suited	Too arid.
Sonoma	Poorly suited	Excess salt.
183:		
Sonoma	Poorly suited	Excess salt.
Sonoma	Poorly suited	Excess salt.
185:		
Sonoma	Suited	Too arid, excess salt, excess sodium.
Ocala variant	Poorly suited	Too arid, rooting depth, excess salt.
186:		
Sondoa	Poorly suited	Too arid, excess salt, excess sodium.
Ixian	Poorly suited	Too arid, excess salt, excess sodium.
Ixian	Poorly suited	Too arid, excess salt, excess sodium.
187:		
Sonoma	Poorly suited	Excess salt.
Deleplain	Suited	Too arid.
Ocala	Poorly suited	Excess salt, excess sodium.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
190:		
Forvic	Suited	Droughty, too clayey.
Igdell	Poorly suited	Rooting depth.
191:		
Forvic	Suited	Droughty, too clayey.
Chayson	Suited	Too arid.
Igdell	Poorly suited	Rooting depth.
195:		
Chayson	Suited	Too arid.
Igdell	Poorly suited	Rooting depth.
211:		
Crooked creek	Suited	Too arid, too clayey.
Crooked creek	Well suited	
Welch	Suited	Too arid.
219:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Arcia	Suited	Too arid.
220:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Cleavage	Poorly suited	Droughty, small stones.
Arcia	Suited	Too arid.
221:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Cleavage	Poorly suited	Droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
222:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Coser	Poorly suited	Rooting depth.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
223:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Hapgood	Poorly suited	Small stones.
224:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Graley	Poorly suited	Too arid, droughty, small stones.
Arcia	Suited	Too arid.
225:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Rodie	Poorly suited	Small stones.
Lerrow	Suited	Too arid, droughty.
226:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Quopant	Poorly suited	Too arid, droughty, small stones.
Rodie	Poorly suited	Small stones.
227:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Rodie	Poorly suited	Small stones.
228:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Rodie	Poorly suited	Small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
229:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Shalper	Poorly suited	Too arid, droughty, small stones.
Cleavage	Poorly suited	Droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
232:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Quarz	Poorly suited	Droughty, small stones, rooting depth.
235:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Shalper	Poorly suited	Too arid, droughty, small stones.
236:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
McIvey	Well suited	
237:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Keman	Poorly suited	Small stones.
238:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Hapgood	Poorly suited	Small stones.
Arcia	Suited	Too arid.
239:		
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Tweener	Poorly suited	Droughty, small stones.
Rock outcrop	Not rated	
240:		
Gumble	Poorly suited	Droughty, rooting depth.
Shalper	Poorly suited	Too arid, droughty, small stones.
Izar	Poorly suited	Droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
250:		
Chuska	Poorly suited	Droughty.
Chuska	Poorly suited	Droughty.
Soughe	Poorly suited	Too arid, droughty, small stones.
251:		
Chuska	Poorly suited	Droughty.
Dewar	Poorly suited	Droughty.
Enko	Suited	Too arid, excess salt, excess sodium.
252:		
Chuska	Poorly suited	Droughty.
Jackpot	Suited	Too arid, depth to rock.
Soughe	Poorly suited	Too arid, droughty, small stones.
253:		
Chuska	Poorly suited	Droughty.
Jackpot	Suited	Too arid, depth to rock.
Dewar	Poorly suited	Droughty.
260:		
Bancy	Suited	Too arid, droughty, cemented pan.
Heckison	Suited	Too arid, excess sodium.
270:		
Cameek	Suited	Too arid, droughty, too clayey.
Bilbo	Poorly suited	Small stones.
Cameek	Suited	Too arid, droughty, too clayey.
280:		
Quarz	Poorly suited	Droughty, small stones, rooting depth.
Shalper	Poorly suited	Too arid, droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
281:		
Quarz	Poorly suited	Droughty, small stones, rooting depth.
Cotant	Poorly suited	Droughty, rooting depth.
282:		
Quarz	Poorly suited	Droughty, small stones, rooting depth.
Quarz	Poorly suited	Droughty, small stones, rooting depth.
Arcia	Suited	Too arid.
290:		
Gochea	Suited	Too arid.
Vadaho	Suited	Too arid, droughty, cemented pan.
291:		
Gochea	Suited	Too arid.
Simon	Suited	Too arid.
300:		
Ola	Suited	Too arid, droughty, erodes easily.
Earcrae	Suited	Droughty.
Ola	Suited	Too arid, droughty.
310:		
Agort	Poorly suited	Droughty, depth to rock.
Xica	Poorly suited	Droughty.
Xica	Poorly suited	Droughty.
320:		
Hussell	Suited	Too arid, droughty.
Nevador	Poorly suited	Rooting depth.
340:		
Xipe	Suited	Too arid.
Valmy	Poorly suited	Too arid, excess salt, excess sodium.
Ocala	Poorly suited	Excess salt, excess sodium.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
341:		
Xipe	Suited	Too arid, excess salt.
Batan	Poorly suited	Too arid, excess salt, excess sodium.
Devilsgait	Suited	Too arid, excess salt.
380:		
Elhina	Poorly suited	Rooting depth.
400:		
Zapa	Poorly suited	Droughty, small stones.
Zapa	Poorly suited	Droughty, small stones.
Chuska	Poorly suited	Droughty.
401:		
Zapa	Poorly suited	Droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
403:		
Zapa	Poorly suited	Droughty, small stones.
Puett	Poorly suited	Too arid, droughty.
Shalper	Poorly suited	Too arid, droughty, small stones.
404:		
Zapa	Poorly suited	Droughty, small stones.
Peeko	Poorly suited	Droughty.
Oupico	Suited	Too arid, droughty, excess salt.
405:		
Zapa	Poorly suited	Droughty, small stones.
Zapa	Poorly suited	Droughty, small stones.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
406:		
Zapa	Poorly suited	Droughty, small stones.
Pibler	Poorly suited	Too arid, droughty, small stones.
407:		
Zapa	Poorly suited	Droughty, small stones.
Enko	Suited	Too arid, excess salt, excess sodium.
410:		
Coser	Poorly suited	Rooting depth.
McIvey	Well suited	
Cleavage	Poorly suited	Droughty, small stones.
411:		
Coser	Poorly suited	Rooting depth.
Coser	Suited	Too arid, droughty.
McIvey	Well suited	
412:		
Coser	Poorly suited	Rooting depth.
Coser	Poorly suited	Rooting depth.
Lerrow	Suited	Too arid, droughty.
414:		
Coser	Poorly suited	Rooting depth.
Forvic	Suited	Droughty, too clayey.
Scalfar	Poorly suited	Small stones.
415:		
Coser	Poorly suited	Rooting depth, erodes easily.
Cleavage	Poorly suited	Droughty, small stones.
Pequop	Suited	Too arid.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
417:		
Coser	Poorly suited	Rooting depth, erodes easily.
Fez	Poorly suited	Droughty, too sandy.
Quopant	Poorly suited	Too arid, droughty, small stones.
418:		
Rodie	Poorly suited	Small stones.
Rubble land	Poorly suited	Too arid, droughty, large stones.
Sumine	Poorly suited	Small stones.
419:		
Rodie	Poorly suited	Small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Pequop	Suited	Too arid.
420:		
Rodie	Poorly suited	Small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Agassiz	Poorly suited	Droughty, small stones.
421:		
Rodie	Poorly suited	Small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Keman	Poorly suited	Small stones.
422:		
Rodie	Poorly suited	Small stones.
Quarz	Poorly suited	Droughty, small stones, rooting depth.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
423:		
Quopant	Poorly suited	Too arid, droughty, small stones.
Coser	Poorly suited	Rooting depth.
Lerrow	Suited	Too arid, droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
430:		
Ocala	Poorly suited	Excess salt, excess sodium.
Kelk	Suited	Too arid, excess salt.
431:		
Ocala	Poorly suited	Excess salt, excess sodium.
Batan	Poorly suited	Too arid, excess salt, excess sodium.
Devilsgait	Suited	Too arid, excess salt.
432:		
Ocala	Poorly suited	Excess salt, excess sodium.
Ixian	Poorly suited	Excess salt, excess sodium.
462:		
Graley	Poorly suited	Too arid, droughty, small stones.
Chen	Poorly suited	Too arid, droughty, small stones.
Arcia	Suited	Too arid.
470:		
Chen	Poorly suited	Too arid, droughty, small stones.
Graley	Poorly suited	Too arid, droughty, small stones.
Rock outcrop	Not rated	
472:		
Chen	Poorly suited	Too arid, droughty, small stones.
Coser	Poorly suited	Rooting depth.
473:		
Chen	Poorly suited	Too arid, droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
474:		
Chen	Poorly suited	Too arid, droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Vitale	Poorly suited	Droughty, small stones.
480:		
Devilsgait	Suited	Too arid, excess salt.
Kelk	Suited	Too arid, excess salt.
481:		
Devilsgait	Suited	Too arid.
Batan	Poorly suited	Too arid, excess salt, excess sodium.
Devilsgait	Suited	Too arid, excess salt.
482:		
Devilsgait	Suited	Too arid.
483:		
Devilsgait	Suited	Too arid.
Valmy	Poorly suited	Too arid, excess salt, excess sodium.
490:		
Loncan	Poorly suited	Small stones.
Sumine	Poorly suited	Small stones.
521:		
Halleck	Suited	Too arid.
Halleck	Suited	Too arid.
530:		
Ekim	Poorly suited	Small stones.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Loncan	Poorly suited	Small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
540:		
Sumine	Poorly suited	Small stones.
Hapgood	Poorly suited	Small stones.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
541:		
Sumine	Poorly suited	Small stones.
Cleavage	Poorly suited	Droughty, small stones.
Bullump	Poorly suited	Small stones.
542:		
Sumine	Poorly suited	Small stones.
Cleavage	Poorly suited	Droughty, small stones.
Hackwood	Well suited	
543:		
Sumine	Poorly suited	Small stones.
Pernty	Poorly suited	Droughty, small stones.
Tusel	Poorly suited	Small stones.
550:		
Bullump	Poorly suited	Small stones.
Sumine	Poorly suited	Small stones.
Hapgood	Poorly suited	Small stones.
560:		
Amene	Poorly suited	Droughty, small stones.
Belsac	Poorly suited	Small stones.
Onkeyo	Poorly suited	Droughty, small stones.
561:		
Amene	Poorly suited	Droughty, small stones.
Ekim	Poorly suited	Small stones.
Agassiz	Poorly suited	Droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
570:		
Tusel	Poorly suited	Large stones.
Belsac variant	Poorly suited	Small stones.
580:		
Kelk	Suited	Too arid, excess salt.
Sonoma	Suited	Too arid, excess salt, excess sodium.
582:		
Kelk	Suited	Too arid, excess salt.
Devilsgait	Suited	Too arid, excess salt.
Welch	Well suited	
585:		
Valmy	Poorly suited	Too arid, excess salt, excess sodium.
Luap	Poorly suited	Too arid, droughty, small stones.
590:		
Valmy	Poorly suited	Too arid, excess salt, excess sodium.
Enko	Suited	Too arid, excess salt, excess sodium.
610:		
Grina	Poorly suited	Droughty, erodes easily.
Gochea	Suited	Too arid.
620:		
Vadaho	Suited	Too arid, droughty, cemented pan.
Vadaho	Suited	Too arid, droughty, cemented pan.
621:		
Vadaho	Suited	Too arid, droughty, cemented pan.
Vadaho	Suited	Too arid, droughty, cemented pan.
Stampede	Poorly suited	Rooting depth.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
631:		
Pernty	Poorly suited	Droughty, small stones.
McIvey	Well suited	
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
632:		
Pernty	Poorly suited	Droughty, small stones.
Sumine	Poorly suited	Small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
633:		
Pernty	Poorly suited	Droughty, small stones.
Tweener	Poorly suited	Droughty, small stones.
Rock outcrop	Not rated	
651:		
Scalfar	Poorly suited	Small stones.
Cleavage	Poorly suited	Droughty, small stones.
Hackwood	Well suited	
652:		
Scalfar	Poorly suited	Small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Quopant	Poorly suited	Too arid, droughty, small stones.
655:		
Scalfar	Poorly suited	Small stones.
Hapgood	Poorly suited	Small stones.
656:		
Scalfar	Poorly suited	Small stones.
Fenelon	Suited	Too arid.
Booford	Poorly suited	Rooting depth.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
660:		
Hooplite	Poorly suited	Too arid, droughty, small stones.
Hooplite	Poorly suited	Too arid, droughty, small stones.
661:		
Hooplite	Poorly suited	Too arid, droughty, small stones.
Hooplite	Poorly suited	Too arid, droughty, small stones.
Ackett	Poorly suited	Too arid, droughty, small stones.
662:		
Hooplite	Poorly suited	Too arid, droughty, small stones.
Peeko	Poorly suited	Droughty.
Zapa	Poorly suited	Droughty, small stones.
664:		
Hooplite	Poorly suited	Too arid, droughty, small stones.
Hooplite	Poorly suited	Too arid, droughty, small stones.
Kram	Poorly suited	Droughty, small stones, excess salt.
665:		
Hooplite	Poorly suited	Too arid, droughty, small stones.
Hooplite	Poorly suited	Too arid, droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
666:		
Hooplite	Poorly suited	Too arid, droughty, small stones.
Hooplite	Poorly suited	Too arid, droughty, small stones.
Kleckner	Poorly suited	Too arid, rooting depth.
670:		
Ackett	Poorly suited	Too arid, droughty, small stones.
Kleckner	Poorly suited	Rooting depth.
Anowell	Poorly suited	Droughty, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
672:		
Ackett	Poorly suited	Too arid, droughty, small stones.
Ackett	Poorly suited	Too arid, droughty, small stones.
Cameek	Suited	Too arid, droughty, too clayey.
673:		
Ackett	Poorly suited	Too arid, droughty, small stones.
Ackett	Poorly suited	Too arid, droughty, small stones.
Gance	Poorly suited	Small stones, rooting depth.
674:		
Ackett	Poorly suited	Too arid, droughty, small stones.
Zapa	Poorly suited	Droughty, small stones.
678:		
Izar	Poorly suited	Droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
679:		
Izar	Poorly suited	Droughty, small stones.
Dewar	Poorly suited	Droughty.
Izar	Poorly suited	Droughty, small stones.
680:		
Izar	Poorly suited	Droughty, small stones.
Holborn	Poorly suited	Droughty, depth to rock.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
681:		
Izar	Poorly suited	Droughty, small stones.
Loomis	Poorly suited	Too arid, droughty, small stones.
Vanwyper	Poorly suited	Droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
682:		
Izar	Poorly suited	Droughty, small stones.
Zapa	Poorly suited	Droughty, small stones.
Peeko	Poorly suited	Droughty.
683:		
Izar	Poorly suited	Droughty, small stones.
Holborn	Poorly suited	Droughty, depth to rock.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
684:		
Izar	Poorly suited	Droughty, small stones.
Rock outcrop	Not rated	
685:		
Izar	Poorly suited	Droughty, small stones.
Puett	Poorly suited	Too arid, droughty.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
686:		
Izar	Poorly suited	Droughty, small stones.
Vanwyper	Poorly suited	Droughty, small stones.
687:		
Izar	Poorly suited	Droughty, small stones.
Wiffo	Poorly suited	Small stones.
688:		
Izar	Poorly suited	Droughty, small stones.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
689:		
Izar	Poorly suited	Droughty, small stones.
Zapa	Poorly suited	Droughty, small stones.
Puett	Poorly suited	Too arid, droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
690:		
Oupico	Suited	Too arid, droughty, excess salt.
Oupico	Suited	Too arid, droughty, excess salt.
Peeko	Poorly suited	Droughty.
691:		
Oupico	Suited	Too arid, droughty, excess salt.
Enko	Suited	Too arid.
700:		
Xica	Poorly suited	Droughty.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Hapgood	Poorly suited	Small stones.
701:		
Xica	Poorly suited	Droughty.
Xica	Poorly suited	Droughty.
Agort	Poorly suited	Droughty, depth to rock.
730:		
Geysen	Poorly suited	Rooting depth, excess salt, excess sodium.
Welch	Suited	Too arid.
Batan	Poorly suited	Too arid, excess salt, excess sodium.
731:		
Geysen	Poorly suited	Rooting depth, excess salt, excess sodium.
Crooked creek	Suited	Too arid, too clayey.
Batan	Poorly suited	Too arid, excess salt, excess sodium.
742:		
Cleavage	Poorly suited	Droughty, small stones.
Cleavage	Poorly suited	Droughty, small stones.
Vitale	Poorly suited	Droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
743:		
Cleavage	Poorly suited	Droughty, small stones.
Cleavage	Poorly suited	Droughty, small stones.
744:		
Cleavage	Poorly suited	Droughty, small stones.
Graley	Poorly suited	Too arid, droughty, small stones.
Hapgood	Poorly suited	Small stones.
745:		
Cleavage	Poorly suited	Droughty, small stones.
Graley	Poorly suited	Too arid, droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
746:		
Cleavage	Poorly suited	Droughty, small stones.
Hackwood	Well suited	
Graley	Poorly suited	Too arid, droughty, small stones.
747:		
Cleavage	Poorly suited	Droughty, small stones.
Keman	Poorly suited	Small stones.
Hogmalat	Poorly suited	Droughty, small stones.
748:		
Cleavage	Poorly suited	Droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Quopant	Poorly suited	Too arid, droughty, small stones.
749:		
Cleavage	Poorly suited	Droughty, small stones.
Snotown	Poorly suited	Droughty, small stones.
Chen	Poorly suited	Too arid, droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
750:		
Cleavage	Poorly suited	Droughty, small stones.
Bullump	Poorly suited	Small stones.
Hackwood	Well suited	
751:		
Cleavage	Poorly suited	Droughty, small stones.
Cleavage	Poorly suited	Droughty, small stones.
Hapgood	Poorly suited	Small stones.
752:		
Cleavage	Poorly suited	Droughty, small stones.
Arcia	Suited	Too arid.
Lerrow	Suited	Too arid, droughty.
753:		
Cleavage	Poorly suited	Droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
Rock outcrop	Not rated	
754:		
Cleavage	Poorly suited	Droughty, small stones.
Cleavage	Poorly suited	Droughty, small stones.
Sumine	Poorly suited	Small stones.
755:		
Cleavage	Poorly suited	Droughty, small stones.
Sumine	Poorly suited	Small stones.
Hapgood	Poorly suited	Small stones.
756:		
Cleavage	Poorly suited	Droughty, small stones.
Sumine	Poorly suited	Small stones.
Pernty	Poorly suited	Droughty, small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
757:		
Cleavage	Poorly suited	Droughty, small stones.
Sumine	Poorly suited	Small stones.
Snotown	Poorly suited	Droughty, small stones.
758:		
Cleavage	Poorly suited	Droughty, small stones.
Tweener	Poorly suited	Droughty, small stones.
Graley	Poorly suited	Too arid, droughty, small stones.
759:		
Cleavage	Poorly suited	Droughty, small stones.
Tweener	Poorly suited	Droughty, small stones.
Scalfar	Poorly suited	Small stones.
760:		
Jericho	Poorly suited	Too arid, droughty.
Peeko	Poorly suited	Droughty.
Izar	Poorly suited	Droughty, small stones.
761:		
Jericho	Poorly suited	Too arid, droughty.
Gance	Poorly suited	Small stones, rooting depth.
762:		
Jericho	Poorly suited	Too arid, droughty.
Peeko	Poorly suited	Droughty.
Gance	Poorly suited	Small stones, rooting depth.
763:		
Jericho	Poorly suited	Too arid, droughty.
Pamison	Suited	Too arid, droughty.
Peeko	Poorly suited	Droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
764:		
Jericho	Poorly suited	Too arid, droughty.
Jericho	Poorly suited	Too arid, droughty.
765:		
Jericho	Poorly suited	Too arid, droughty.
Pequop	Suited	Too arid.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
780:		
Puett	Poorly suited	Too arid, droughty.
Peeko	Poorly suited	Droughty.
Yuko	Poorly suited	Too arid, droughty, rooting depth.
781:		
Puett	Poorly suited	Too arid, droughty.
Izar	Poorly suited	Droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
790:		
Loomis	Poorly suited	Too arid, droughty, small stones.
Ackett	Poorly suited	Too arid, droughty, small stones.
Dewar	Poorly suited	Droughty.
796:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
797:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Amene	Poorly suited	Droughty, small stones.
798:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Amene	Poorly suited	Droughty, small stones.
Hackwood	Well suited	

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
799:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Arcia	Suited	Too arid.
Vitale	Poorly suited	Droughty, small stones.
801:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Amene	Poorly suited	Droughty, small stones.
Onkeyo	Poorly suited	Droughty, small stones.
802:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Hackwood	Well suited	
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
804:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Onkeyo	Poorly suited	Small stones.
Nirac	Suited	Too arid, droughty.
805:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Ekim	Poorly suited	Small stones.
Hapgood	Poorly suited	Small stones.
806:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Vitale	Poorly suited	Droughty, small stones.
807:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Belsac	Poorly suited	Small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
808:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Cleavage	Poorly suited	Droughty, small stones.
Hapgood	Poorly suited	Small stones.
809:		
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
Xica	Poorly suited	Droughty.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
810:		
Igdell	Poorly suited	Rooting depth.
Kleckner	Poorly suited	Rooting depth.
820:		
Cotant	Poorly suited	Droughty, rooting depth.
Eboda	Suited	Too arid.
Coser	Poorly suited	Rooting depth.
822:		
Cotant	Poorly suited	Droughty, rooting depth.
Chen	Poorly suited	Too arid, droughty, small stones.
Graley	Poorly suited	Too arid, droughty, small stones.
830:		
Onkeyo	Poorly suited	Droughty, small stones.
Pequop	Suited	Too arid.
Sumine	Poorly suited	Small stones.
850:		
Pamison	Suited	Too arid, droughty.
Affey	Suited	Too arid.
Pamison	Suited	Too arid, droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
851:		
Pamison	Suited	Too arid, droughty.
Amtoft	Poorly suited	Droughty, small stones.
Coser	Poorly suited	Rooting depth.
880:		
Heckison	Suited	Too arid, excess sodium.
Xerxes	Poorly suited	Too arid, droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
881:		
Gochea	Suited	Too arid.
Chayson	Suited	Too arid.
Pamison	Suited	Too arid, droughty.
930:		
Orovada	Poorly suited	Excess salt.
Kelk	Suited	Too arid, excess salt.
Orovada	Poorly suited	Excess salt.
931:		
Orovada	Poorly suited	Excess salt.
Oupico	Suited	Too arid, droughty, excess salt.
Izar	Poorly suited	Droughty, small stones.
932:		
Orovada	Poorly suited	Excess salt.
Xipe	Suited	Too arid.
Ocala	Poorly suited	Excess salt, excess sodium.
940:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Anowell	Poorly suited	Droughty, depth to rock.
Peeko	Poorly suited	Droughty.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
941:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
942:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Cobre	Suited	Too arid.
Anowell	Poorly suited	Droughty, depth to rock.
943:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Puett	Poorly suited	Too arid, droughty.
Cobre	Suited	Too arid.
944:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Peeko	Poorly suited	Droughty.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
945:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Izar	Poorly suited	Droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
946:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Cobre	Suited	Too arid.
947:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Kelk	Suited	Too arid, excess salt.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
948:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Puett	Poorly suited	Too arid, droughty.
Trinidad	Poorly suited	Droughty.
949:		
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Quopant	Poorly suited	Too arid, droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
961:		
Trinidad	Poorly suited	Droughty, erodes easily.
Trinidad	Poorly suited	Droughty.
Izod	Poorly suited	Too arid, droughty, small stones.
970:		
Hunewill	Suited	Too arid.
Bilbo	Poorly suited	Small stones, rooting depth.
Devilsgait	Suited	Too arid, excess salt.
980:		
Boso	Poorly suited	Droughty.
Dewar	Poorly suited	Droughty.
990:		
Bluehill	Suited	Too arid, erodes easily.
Tomsherry	Suited	Too arid, droughty.
Xerxes	Poorly suited	Too arid, droughty, small stones.
1010:		
Agassiz	Poorly suited	Droughty, small stones.
Croesus	Poorly suited	Droughty, small stones.
Rubble land	Poorly suited	Too arid, droughty, large stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
1040:		
Gravier	Poorly suited	Too arid, excess salt, excess sodium.
Shafter	Poorly suited	Too arid, droughty.
Toano	Poorly suited	Too arid, excess salt.
1041:		
Gravier	Poorly suited	Too arid, excess salt, excess sodium.
Wiffo	Poorly suited	Small stones.
1042:		
Gravier	Poorly suited	Too arid, droughty, small stones.
Pibler	Poorly suited	Too arid, droughty, small stones.
1043:		
Gravier	Poorly suited	Too arid, excess salt, excess sodium.
Luap	Poorly suited	Too arid, small stones, excess salt.
1050:		
Pibler	Poorly suited	Too arid, droughty, small stones.
Pibler	Poorly suited	Too arid, droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
1051:		
Pibler	Poorly suited	Too arid, droughty, small stones.
Pibler	Poorly suited	Too arid, droughty, small stones.
1052:		
Pibler	Poorly suited	Too arid, droughty, small stones.
Gravier	Poorly suited	Too arid, excess salt, excess sodium.
1054:		
Pibler	Poorly suited	Too arid, droughty, small stones.
Wiffo	Poorly suited	Small stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
1055:		
Pibler	Poorly suited	Too arid, droughty, small stones.
Gravier	Poorly suited	Too arid, droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
1056:		
Pibler	Poorly suited	Too arid, droughty, small stones.
Valmy	Poorly suited	Too arid, excess salt, excess sodium.
1060:		
Kzin	Poorly suited	Droughty, small stones, depth to rock.
Holborn	Poorly suited	Droughty, depth to rock.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
1062:		
Kzin	Poorly suited	Droughty, small stones, depth to rock.
Cobre	Suited	Too arid.
Jackpot	Suited	Too arid, depth to rock.
1064:		
Kzin	Poorly suited	Droughty, small stones, depth to rock.
Golsum	Poorly suited	Droughty, small stones.
Golsum	Poorly suited	Droughty, small stones.
1070:		
Loray	Poorly suited	Too arid.
Luap	Poorly suited	Too arid, small stones, excess salt.
Toano	Poorly suited	Too arid, excess salt.
1071:		
Loray	Poorly suited	Too arid, soil blowing.
Luap	Poorly suited	Too arid, small stones, excess salt.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
1072:		
Loray	Poorly suited	Too arid, soil blowing.
Loray	Poorly suited	Too arid.
Hardhat	Poorly suited	Too arid.
1120:		
Ashart	Suited	Too arid, droughty, depth to rock.
Zark	Suited	Too sandy.
1140:		
Elocin	Suited	Too arid.
Stampede	Poorly suited	Rooting depth.
Donna	Poorly suited	Rooting depth.
1141:		
Elocin	Suited	Too arid.
Donna	Poorly suited	Rooting depth.
1190:		
Tweener	Poorly suited	Droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
Cleavage	Poorly suited	Droughty, small stones.
1191:		
Tweener	Poorly suited	Droughty, small stones.
Tweener	Poorly suited	Droughty, small stones.
Graley	Poorly suited	Too arid, droughty, small stones.
1200:		
Xerxes	Poorly suited	Too arid, droughty, small stones.
Bluehill	Suited	Too arid.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
1201:		
Xerxes	Poorly suited	Too arid, droughty, small stones.
Zark	Suited	Too sandy.
Ashart	Suited	Too arid, droughty, depth to rock.
1203:		
Xerxes	Poorly suited	Too arid, droughty, small stones.
Xerxes	Poorly suited	Too arid, droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
1204:		
Xerxes	Poorly suited	Too arid, droughty, small stones.
Shalper	Poorly suited	Too arid, droughty, small stones.
Bluehill	Suited	Too arid.
1400:		
Nevador	Poorly suited	Rooting depth.
Zapa	Poorly suited	Droughty, small stones.
2000:		
Shuttle	Poorly suited	Too arid, excess salt, excess sodium.
Shafter	Poorly suited	Too arid, droughty.
Loray	Poorly suited	Too arid.
2001:		
Shuttle	Poorly suited	Too arid, excess salt, excess sodium.
Hardhat	Poorly suited	Too arid.
Shuttle	Poorly suited	Too arid, excess salt, excess sodium.
2010:		
Wiffo variant	Poorly suited	Droughty, large stones.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
2030:		
Cavehill	Poorly suited	Small stones.
Nirac	Suited	Too arid.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
2040:		
Sodhouse	Poorly suited	Too arid, droughty, excess sodium.
Loray	Poorly suited	Too arid.
2042:		
Sodhouse	Poorly suited	Too arid, droughty, excess sodium.
Pibler	Poorly suited	Too arid, droughty, small stones.
2050:		
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Tecomar	Poorly suited	Droughty, small stones.
2051:		
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
Rock outcrop	Not rated	
2053:		
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Tecomar	Poorly suited	Droughty, small stones.
Nirac	Suited	Too arid.
2054:		
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Rock outcrop	Not rated	
2060:		
Appian	Poorly suited	Too arid, rooting depth, excess sodium.
Kawich	Poorly suited	Too arid, droughty, too sandy.
Kawich	Poorly suited	Too arid, excess salt.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
2070:		
Kawich	Poorly suited	Too arid, excess salt.
Kawich	Poorly suited	Too arid, droughty, too sandy.
Ixian	Poorly suited	Excess salt, excess sodium.
2080:		
Toano	Poorly suited	Too arid.
Toano	Poorly suited	Too arid, excess salt.
2081:		
Toano	Poorly suited	Too arid.
Tulase	Suited	Too arid.
2090:		
Toano	Poorly suited	Too arid, excess salt.
Enko	Suited	Too arid, excess salt, excess sodium.
Sondoa	Poorly suited	Too arid, excess salt, excess sodium.
3001:		
Ixian	Poorly suited	Excess salt, excess sodium.
Valmy	Poorly suited	Too arid, excess salt, excess sodium.
3008:		
Tecomar	Poorly suited	Droughty, small stones.
Sumine	Poorly suited	Small stones.
Kram	Poorly suited	Droughty, small stones, excess salt.
3009:		
Tecomar	Poorly suited	Droughty, small stones.
Shalcleav	Poorly suited	Droughty, small stones, depth to rock.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
3010:		
Tecomar	Poorly suited	Droughty, large stones.
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Gollaher	Poorly suited	Droughty, small stones, depth to rock.
3012:		
Tecomar	Poorly suited	Droughty, large stones.
Kram	Poorly suited	Droughty, small stones, excess salt.
Amtoft	Poorly suited	Droughty, small stones.
3013:		
Tecomar	Poorly suited	Droughty, large stones.
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Rock outcrop	Not rated	
3014:		
Tecomar	Poorly suited	Droughty, small stones.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
3015:		
Tecomar	Poorly suited	Droughty, small stones.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
3016:		
Tecomar	Poorly suited	Droughty, small stones.
Izar	Poorly suited	Droughty, small stones.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
3017:		
Tecomar	Poorly suited	Droughty, small stones.
Amtoft	Poorly suited	Droughty, small stones.
Shivlum	Suited	Too arid.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
3018:		
Tecomar	Poorly suited	Droughty, small stones.
Nirac	Suited	Too arid.
Kram	Poorly suited	Droughty, small stones, excess salt.
3019:		
Tecomar	Poorly suited	Droughty, small stones.
Hopeka	Poorly suited	Droughty, small stones, depth to rock.
Ekim	Suited	Too arid, droughty.
3020:		
Amtoft	Poorly suited	Droughty, small stones.
Tecomar	Poorly suited	Droughty, large stones.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
3021:		
Amtoft	Poorly suited	Droughty, small stones.
Tecomar	Poorly suited	Droughty, large stones.
Rock outcrop	Not rated	
3023:		
Amtoft	Poorly suited	Droughty, small stones.
Jericho	Poorly suited	Too arid, droughty.
Tecomar	Poorly suited	Droughty, large stones.
3025:		
Amtoft	Poorly suited	Droughty, small stones.
Arcia	Suited	Too arid.
Kram	Poorly suited	Droughty, small stones, excess salt.
3030:		
Cobre	Suited	Too arid.
Izar	Poorly suited	Droughty, small stones.
Jackpot	Suited	Too arid, depth to rock.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
3031:		
Cobre	Suited	Too arid.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Jackpot	Suited	Too arid, depth to rock.
3032:		
Cobre	Suited	Too arid.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Anowell	Poorly suited	Droughty, depth to rock.
3033:		
Cobre	Suited	Too arid.
Hundraw	Poorly suited	Too arid, droughty, depth to rock.
Zapa	Poorly suited	Droughty, small stones.
3036:		
Cobre	Suited	Too arid.
Enko	Suited	Too arid, excess salt, excess sodium.
3040:		
Player	Suited	Too arid, erodes easily.
McIvey	Well suited	
Hogmalat	Poorly suited	Droughty, small stones.
3070:		
Arva	Well suited	
Chen	Poorly suited	Too arid, droughty, small stones.
Sumine	Poorly suited	Small stones.
3080:		
Fenelon	Suited	Too arid.
Lerrow variant	Poorly suited	Rooting depth.
Cotant	Poorly suited	Droughty, rooting depth.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
3081:		
Fenelon	Suited	Too arid.
Gochea	Suited	Too arid.
3100:		
Kleckner	Poorly suited	Rooting depth.
Stampede	Poorly suited	Rooting depth.
4000:		
Wicup	Suited	Too arid.
Anowell	Poorly suited	Droughty, depth to rock.
Kzin	Poorly suited	Droughty, small stones, depth to rock.
4001:		
Wicup	Suited	Too arid.
Fenelon	Suited	Too arid.
Akler	Poorly suited	Droughty, rooting depth.
4002:		
Wicup	Suited	Too arid.
Gochea	Suited	Too arid.
Gumble	Poorly suited	Droughty, rooting depth.
4020:		
Akler	Poorly suited	Droughty, small stones, rooting depth.
Cleavage	Poorly suited	Droughty, small stones.
Elocin	Suited	Too arid.
4040:		
Kram	Poorly suited	Droughty, small stones, excess salt.
Amtoft	Poorly suited	Droughty, small stones.
Nirac	Suited	Too arid.

TABLE 6.--SUITABILITY FOR RANGELAND SEEDING--Continued

Soil name and map symbol	Limitation rating	Restrictive features
4041:		
Kram	Poorly suited	Droughty, small stones, excess salt.
Tecomar	Poorly suited	Droughty, small stones.
4042:		
Kram	Poorly suited	Droughty, small stones, excess salt.
Hooplite	Poorly suited	Too arid, droughty, small stones.
Yuko	Poorly suited	Too arid, droughty, rooting depth.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

(Only the soils suitable for production of commercial trees are listed)

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity		
		Erosion hazard	Equipment Limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber
									m3/ha
405:									
Zapa.									
Zapa.									
Hundraw---------	1D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper--------	59	1
542:									
Sumine.									
Cleavage.									
Hackwood--------	1R	Severe	Severe	Slight	Moderate	Slight	Quaking aspen-------	44	1
651:									
Scalfar.									
Cleavage.									
Hackwood--------	1A	Moderate	Moderate	Slight	Moderate	Slight	Quaking aspen-------	44	1
664:									
Hooplite.									
Hooplite.									
Kram------------	0R	Severe	Severe	Slight	Slight	Slight	Utah juniper--------	33	---
683:									
Izar.									
Holborn.									
Hundraw---------	1D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper--------	59	1
746:									
Cleavage.									
Hackwood--------	1R	Severe	Severe	Slight	Moderate	Slight	Quaking aspen-------	44	1
Graley.									
750:									
Cleavage.									
Bullump.									
Hackwood--------	1R	Severe	Severe	Slight	Moderate	Slight	Quaking aspen-------	44	1
798:									
Gollaher.									
Amene.									
Hackwood--------	1R	Severe	Severe	Slight	Moderate	Slight	Quaking aspen-------	44	1

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity		
		Erosion hazard	Equipment Limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber
									m3/ha
802: Gollaher.									
Hackwood--------	1R	Severe	Severe	Slight	Moderate	Slight	Quaking aspen-------	44	1
Gollaher.									
941: Hundraw.									
Hundraw---------	1D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper--------	59	1
942:									
Hundraw---------	1D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper--------	59	1
Cobre.									
Anowell.									
943:									
Hundraw---------	1R	Severe	Severe	Moderate	Slight	Moderate	Utah juniper--------	59	1
Puett-----------	0D	Slight	Slight	Moderate	Slight	Moderate	Utah juniper--------	20	---
Cobre.									
944:									
Hundraw---------	1R	Severe	Severe	Moderate	Slight	Moderate	Utah juniper--------	59	1
Peeko.									
Hundraw.									
945:									
Hundraw---------	1R	Severe	Severe	Moderate	Slight	Moderate	Utah juniper--------	59	1
Izar.									
Izar.									
947:									
Hundraw---------	1D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper--------	59	1
Kelk.									
Hundraw---------	1D	Slight	Slight	Moderate	Slight	Moderate	Utah juniper--------	59	1
948:									
Hundraw---------	1R	Severe	Severe	Moderate	Slight	Moderate	Utah juniper--------	59	1
Puett-----------	0D	Slight	Slight	Moderate	Slight	Moderate	Utah juniper--------	20	---
Trinidad.									
949:									
Hundraw---------	1R	Severe	Severe	Moderate	Slight	Moderate	Utah juniper--------	59	1
Quopant.									

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity		
		Erosion hazard	Equipment Limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber
									m3/ha
949 (con.):									
Shalper.									
1060:									
Kzin	0D	Slight	Moderate	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
Holborn.									
Kzin	0R	Moderate	Severe	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
1062:									
Kzin	0R	Moderate	Severe	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
Cobre.									
Jackpot.									
1064:									
Kzin	0R	Moderate	Severe	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
Golsum.									
Golsum	0F	Slight	Slight	Slight	Slight	Slight	Utah juniper	49	---
							Singleleaf pinyon	49	---
2030:									
Cavehill	0R	Severe	Severe	Moderate	Slight	Severe	Singleleaf pinyon	55	---
Nirac.									
Gollaher.									
2050:									
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
Tecomar.									
2051:									
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
Kzin	0R	Moderate	Severe	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
Rock Outcrop.									
2053:									
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
Tecomar.									
Nirac.									

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity		
		Erosion hazard	Equipment Limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber
									m3/ha
2054:									
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
Rock Outcrop.									
3008:									
Tecomar.									
Sumine.									
Kram	0R	Severe	Severe	Slight	Slight	Slight	Utah juniper	33	---
3010:									
Tecomar.									
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
Gollaher.									
3012:									
Tecomar.									
Kram	0R	Severe	Severe	Slight	Slight	Slight	Utah juniper	33	---
Amtoft.									
3013:									
Tecomar.									
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
Rock Outcrop.									
3014:									
Tecomar.									
Kzin	0D	Slight	Moderate	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
Hopeka	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper	33	---
							Singleleaf pinyon	33	---
3015:									
Tecomar.									
Kzin	0R	Moderate	Severe	Severe	Slight	Moderate	Utah juniper	37	---
							Singleleaf pinyon	37	---
3016:									
Tecomar.									
Izar.									
Hundraw	0D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper	59	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity		
		Erosion hazard	Equipment Limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber
									m3/ha
3018:									
Tecomar.									
Nirac.									
Kram----------	0D	Moderate	Moderate	Slight	Slight	Slight	Utah juniper--------	33	---
3019:									
Tecomar.									
Hopeka----------	0R	Severe	Severe	Severe	Slight	Moderate	Utah juniper--------	33	---
							Singleleaf pinyon---	33	---
Ekim.									
3020:									
Amtoft.									
Tecomar.									
Kzin----------	0R	Moderate	Severe	Severe	Slight	Moderate	Utah juniper--------	37	---
							Singleleaf pinyon---	37	---
3025:									
Amtoft.									
Arcia.									
Kram----------	0R	Severe	Severe	Slight	Slight	Slight	Utah juniper--------	33	---
3031:									
Cobre.									
Hundraw---------	0D	Moderate	Moderate	Moderate	Slight	Moderate	Utah juniper--------	59	---
Jackpot.									
4000:									
Wicup.									
Anowell.									
Kzin----------	0D	Slight	Moderate	Severe	Slight	Moderate	Utah juniper--------	37	---
							Singleleaf pinyon---	37	---
4040:									
Kram----------	0R	Severe	Severe	Slight	Slight	Slight	Utah juniper--------	33	---
Amtoft.									
Nirac.									
4041:									
Kram----------	0R	Severe	Severe	Slight	Slight	Slight	Utah juniper--------	33	---
Tecomar.									
4042:									
Kram----------	0D	Slight	Slight	Slight	Slight	Slight	Utah juniper--------	33	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns					Potential productivity		
		Erosion hazard	Equipment Limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber
									m3/ha
4042 (con.): Hooplite.									
Yuko.									

TABLE 8--CONSTRUCTION MATERIALS

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
10:				
Yuko	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Akler	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
20:				
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
Igdell	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Vanwyper	Poor: depth to rock, low strength, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: too clayey, small stones, slope
21:				
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Stampede	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
22:				
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Igdell	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
23:				
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
23 (con.):				
Kleckner	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
31:				
Welch	Fair: shrink-swell, low strength, wetness	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, small stones
Crooked Creek	Fair: wetness	Probable	Probable	Poor: too clayey, area reclaim
32:				
Welch	Fair: shrink-swell, low strength, wetness	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, small stones
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
34:				
Welch	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, small stones
Crooked Creek	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
35:				
Welch	Good	Probable	Probable	Poor: area reclaim
Welch	Fair: wetness	Probable	Probable	Poor: area reclaim
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
40:				
McIvey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Quarz	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
60:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Arva	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Lerrow	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
70:				
Stampede	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
72:				
Stampede	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Simon	Fair: shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Arva	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
80:				
Wieland	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Puett	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
81:				
Wieland	Good	Probable	Probable	Poor: small stones, area reclaim
Gance	Fair: large stones	Improbable: small stones	Probable	Poor: small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
81 (con.):				
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
82:				
Wieland	Good	Probable	Probable	Poor: small stones, area reclaim
Hunnton	Poor: cemented pan	Probable	Probable	Poor: too clayey, small stones, area reclaim
Hunewill	Fair: large stones	Probable	Probable	Poor: too sandy, small stones, area reclaim
83:				
Wieland	Good	Probable	Probable	Poor: small stones, area reclaim
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
90:				
Hunnton	Poor: cemented pan	Probable	Probable	Poor: too clayey, small stones, area reclaim
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Bilbo	Poor: slope	Probable	Probable	Poor: too clayey, small stones, area reclaim
93:				
Hunnton	Poor: cemented pan	Probable	Probable	Poor: small stones, area reclaim
Wieland	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
94:				
Hunnton	Poor: cemented pan	Probable	Probable	Poor: small stones, area reclaim
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
94 (con.):				
Wieland	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
120:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
121:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, slope
123:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Oupico	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
124:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, slope
Gance	Fair: large stones	Improbable: small stones	Probable	Poor: small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
125:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, slope
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
126:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
127:				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
129:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
130:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Wieland	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Bilbo	Poor: slope	Probable	Probable	Poor: too clayey, small stones, area reclaim
131:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
131 (con.):				
Hunnton	Poor: cemented pan	Probable	Probable	Poor: too clayey, small stones, area reclaim
Gance	Fair: large stones, slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
132:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Bilbo	Poor: slope	Probable	Probable	Poor: too clayey, small stones, area reclaim
133:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Hunnton	Poor: cemented pan	Probable	Probable	Poor: too clayey, small stones, area reclaim
135:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Yuko	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
136:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
137:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
138:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Jackpot	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
139:				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Yuko	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
140:				
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Wieland	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
141:				
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
144:				
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
144 (con.):				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
150:				
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tusel	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
151:				
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Soughe	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
154:				
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Contact	Fair: slope	Probable	Improbable: too sandy	Poor: too sandy, small stones, slope
Rock Outcrop.				
155:				
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
Pequop	Fair: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
156:				
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Yuko	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
160:				
Dacker	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
161:				
Dacker	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Yuko	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Wieland	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
163:				
Dacker	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
170:				
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
171:				
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Chiara	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
174:				
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
175:				
Wiffo	Good	Improbable: small stones	Probable	Poor: small stones, area reclaim
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
180:				
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
182:				
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Devilsgait	Poor: low strength, wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, excess salt
183:				
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, excess salt
185:				
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
185 (con.):				
Ocala Variant---	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, excess sodium
186:				
Sondoa----------	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Ixian-----------	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Ixian-----------	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
187:				
Sonoma----------	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, excess salt
Deleplain-------	Poor: wetness	Probable	Probable	Poor: small stones, area reclaim, wetness
Ocala-----------	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
190:				
Forvic----------	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Igdell----------	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
191:				
Forvic----------	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Chayson---------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Igdell----------	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
195:				
Chayson---------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Igdell----------	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
211:				
Crooked Creek---	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Crooked Creek---	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Welch----------	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, small stones
219:				
Shalcleav-------	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Arcia----------	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
220:				
Shalcleav-------	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Cleavage--------	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Arcia----------	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
221:				
Shalcleav-------	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Cleavage--------	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav-------	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
222:				
Shalcleav-------	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
222 (con.):				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
223:				
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
224:				
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Graley	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Arcia	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
225:				
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Lerrow	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
226:				
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Quopant	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
226 (con.):				
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
227:				
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
228:				
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
229:				
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
232:				
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Quarz	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
235:				
Shalcleav-------	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Shalper---------	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
236:				
Shalcleav-------	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
McIvey----------	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
237:				
Shalcleav-------	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Gollaher--------	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Keman-----------	Fair: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
238:				
Shalcleav-------	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Hapgood---------	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Arcia-----------	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
239:				
Shalcleav-------	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
239 (con.):				
Tweener	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
240:				
Gumble	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
250:				
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
Soughe	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
251:				
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
252:				
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
Jackpot	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
252 (con.):				
Soughe	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
253:				
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
Jackpot	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
260:				
Bancy	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, cemented pan, small stones
Heckison	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
270:				
Cameek	Poor: cemented pan	Probable	Probable	Poor: cemented pan, too clayey, small stones
Bilbo	Poor: slope	Probable	Probable	Poor: too clayey, small stones, area reclaim
Cameek	Poor: cemented pan	Probable	Probable	Poor: cemented pan, too clayey, small stones
280:				
Quarz	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
281:				
Quarz	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
281 (con.):				
Cotant	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
282:				
Quarz	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Quarz	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Arcia	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
290:				
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
Vadaho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
291:				
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
Simon	Fair: shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: small stones
300:				
Ola	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Earcree	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Ola	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
310:				
Agort	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Xica	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
310 (con.):				
Xica	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
320:				
Hussell	Fair: slope	Probable	Probable	Poor: small stones, slope
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
340:				
Xipe	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
Valmy	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Ocala	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
341:				
Xipe	Good	Improbable: excess fines	Improbable: excess fines	Fair: small stones, area reclaim, thin layer
Batan	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
380:				
Elhina	Good	Probable	Probable	Poor: too sandy, small stones, area reclaim
400:				
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
Chuska	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
401:				
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
401 (con.):				
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
403:				
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
404:				
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Oupico	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
405:				
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
Zapa	Poor: cemented pan, slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
406:				
Zapa	Poor: cemented pan, slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
407:				
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
410:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
McIvey	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
411:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
McIvey	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
412:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Lerrow	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
414:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
414 (con.):				
Forvic	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Scalfar	Good	Probable	Probable	Poor: small stones, area reclaim
415:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Pequop	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
417:				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Fez	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Quopant	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
418:				
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Rubble Land	Poor: large stones, slope	Improbable: small stones, large stones	Improbable: large stones	Poor: area reclaim, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
419:				
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
419 (con.):				
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Pequop	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
420:				
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Agassiz	Poor: depth to rock, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
421:				
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Keman	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
422:				
Rodie	Poor: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Quarz	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
423:				
Quopant	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
423 (con.):				
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Lerrow	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
430:				
Ocala	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
431:				
Ocala	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
Batan	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
432:				
Ocala	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
Ixian	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
462:				
Graley	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Chen	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Arcia	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
470:				
Chen	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
470 (con.):				
Graley	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
472:				
Chen	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
473:				
Chen	Poor: depth to rock, large stones, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
474:				
Chen	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Vitale	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
480:				
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
481:				
Devilsgait	Poor: low strength, wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
481 (con.):				
Batan	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
482:				
Devilsgait	Poor: low strength, wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
483:				
Devilsgait	Poor: low strength, wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
Valmy	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
490:				
Loncan	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
520:				
Halleck	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
521:				
Halleck	Good	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, area reclaim
Halleck	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
530:				
Ekim	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Loncan	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
540:				
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
540 (con.):				
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Gollaher	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
541:				
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Bullump	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
542:				
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hackwood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
543:				
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Pernty	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tusel	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
550:				
Bullump	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
550 (con.):				
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
560:				
Amene	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Belsac	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Onkeyo	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
561:				
Amene	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Ekim	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Agassiz	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
570:				
Tusel	Poor: large stones, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Belsac Variant	Poor: large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: large stones, area reclaim, slope
580:				
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
Sonoma	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
582:				
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
582 (con.):				
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Welch	Fair: shrink-swell, low strength, wetness	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, small stones
585:				
Valmy	Good	Probable	Probable	Poor: small stones, area reclaim
Luap	Good	Probable	Probable	Poor: small stones, area reclaim
590:				
Valmy	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
610:				
Grina	Poor: depth to rock, low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, slope
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
620:				
Vadaho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Vadaho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
621:				
Vadaho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Vadaho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Stampede	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
631:				
Pernty	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
McIvey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
632:				
Pernty	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
633:				
Pernty	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tweener	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
651:				
Scalfar	Poor: slope	Improbable: large stones	Improbable: large stones	Poor: small stones, area reclaim, slope
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hackwood	Fair: shrink-swell, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
652:				
Scalfar	Poor: slope	Improbable: large stones	Improbable: large stones	Poor: small stones, area reclaim, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Quopant	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
655:				
Scalfar	Poor: slope	Improbable: large stones	Improbable: large stones	Poor: small stones, area reclaim, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
656:				
Scalfar	Good	Probable	Probable	Poor: small stones, area reclaim
Fenelon	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Booford	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
660:				
Hooplite	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
661:				
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Ackett	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
662:				
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Zapa	Poor: cemented pan, slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
664:				
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Kram	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
665:				
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
666:				
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Hooplite	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Kleckner	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
670:				
Ackett----------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones
Kleckner--------	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Anowell---------	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
672:				
Ackett----------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones
Ackett----------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones
Cameek----------	Poor: cemented pan	Probable	Probable	Poor: cemented pan, too clayey, small stones
673:				
Ackett----------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones
Ackett----------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones
Gance-----------	Fair: large stones	Improbable: small stones	Probable	Poor: small stones, area reclaim
674:				
Ackett----------	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones
Zapa------------	Poor: cemented pan, slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
678:				
Izar------------	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
678 (con.):				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
679:				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
680:				
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Holborn	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
681:				
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Loomis	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
Vanwyper	Poor: depth to rock, low strength, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: too clayey, small stones, slope
682:				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
682 (con.):				
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
683:				
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Holborn	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
684:				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
685:				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Yuko	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
686:				
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Vanwyper	Poor: depth to rock, low strength, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: too clayey, small stones, slope
687:				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Wiffo	Fair: large stones	Improbable: small stones	Probable	Poor: small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
688:				
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Yuko	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
689:				
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
690:				
Oupico	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Oupico	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, slope
691:				
Oupico	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Enko	Good	Probable	Probable	Fair: small stones, area reclaim
700:				
Xica	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
701:				
Xica	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Xica	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Agort	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
730:				
Geysen	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
Welch	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, small stones
Batan	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
731:				
Geysen	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
Crooked Creek	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Batan	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
742:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Vitale	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
743:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
744:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Graley	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
745:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Graley	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
746:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hackwood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Graley	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
747:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Keman	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim
Hogmalat	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
748:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Shalcleav	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Quopant	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
749:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Snotown	Poor: depth to rock, slope	Improbable: thin layer	Improbable: thin layer	Poor: small stones, too acid, slope
Chen	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
750:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Bullump	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Hackwood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
751:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
752:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Arcia	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Lerrow	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
753:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
754:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
755:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
756:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Pernty	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
757:				
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Snotown	Poor: depth to rock, slope	Improbable: thin layer	Improbable: thin layer	Poor: small stones, too acid, slope
758:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Tweener	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Graley	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
759:				
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Tweener	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Scalfar	Poor: slope	Improbable: large stones	Improbable: large stones	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
760:				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
761:				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Gance	Poor: slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
762:				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Gance	Fair: large stones, slope	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
763:				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Pamison	Good	Probable	Probable	Poor: small stones, area reclaim
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
764:				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
764 (con.):				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
765:				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Pequop	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Yuko	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
780:				
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Yuko	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
781:				
Puett	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
790:				
Loomis	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Ackett	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
790 (con.):				
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
796:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
797:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Amene	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
798:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Amene	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hackwood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
799:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Arcia	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Vitale	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
801:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Amene	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
801 (con.):				
Onkeyo	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
802:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hackwood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Gollaher	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
804:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Onkeyo	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Nirac	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
805:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Ekim	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
806:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
806 (con.):				
Vitale	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
807:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Belsac	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
808:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cleavage	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hapgood	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
809:				
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Xica	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
810:				
Igdell	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Kleckner	Fair: shrink-swell, large stones	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
820:				
Cotant	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
820 (con.):				
Eboda	Poor: depth to rock, low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
822:				
Cotant	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
Chen	Poor: depth to rock, large stones	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Graley	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
830:				
Onkeyo	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Pequop	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
850:				
Pamison	Good	Probable	Probable	Poor: small stones, area reclaim
Affey	Fair: shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Pamison	Fair: slope	Probable	Probable	Poor: small stones, area reclaim, slope
851:				
Pamison	Fair: slope	Probable	Probable	Poor: small stones, area reclaim, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
851 (con.):				
Amtoft	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Coser	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
880:				
Heckison	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Xerxes	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
881:				
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
Chayson	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Pamison	Good	Probable	Probable	Poor: small stones, area reclaim
930:				
Orovada	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
Orovada	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
931:				
Orovada	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Oupico	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
932:				
Orovada	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
932 (con.):				
Xipe	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
Ocala	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt, excess sodium
940:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Anowell	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
941:				
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
942:				
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Anowell	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
943:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Puett	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
943 (con.):				
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
944:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Peeko	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
945:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
946:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
947:				
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Kelk	Fair: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Fair: excess salt
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
948:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Puett	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Trinidad	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
949:				
Hundraw	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Quopant	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
961:				
Trinidad	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Trinidad	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Izod	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
970:				
Hunewill	Fair: large stones	Probable	Probable	Poor: too sandy, small stones, area reclaim
Bilbo	Good	Probable	Probable	Poor: too clayey, small stones, area reclaim
Devilsgait	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
980:				
Boso	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Dewar	Poor: cemented pan, low strength	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones
990:				
Bluehill	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Tomsherry	Good	Improbable: excess fines	Improbable: excess fines	Fair: cemented pan, small stones, thin layer
Xerxes	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
1010:				
Agassiz	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Croesus	Poor: depth to rock, slope	Improbable: small stones	Improbable: thin layer	Poor: small stones, slope
Rubble Land	Poor: large stones, slope	Improbable: small stones, large stones	Improbable: large stones	Poor: area reclaim, small stones, slope
1040:				
Gravier	Good	Probable	Probable	Poor: small stones, area reclaim
Shafter	Poor: cemented pan	Probable	Probable	Poor: cemented pan, small stones, area reclaim
Toano	Good	Improbable: small stones	Probable	Poor: area reclaim, excess salt
1041:				
Gravier	Good	Probable	Probable	Poor: small stones, area reclaim
Wiffo	Fair: large stones	Improbable: small stones	Probable	Poor: small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
1042:				
Gravier	Good	Probable	Probable	Poor: small stones, area reclaim
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
1043:				
Gravier	Good	Probable	Probable	Poor: small stones, area reclaim
Luap	Good	Probable	Probable	Poor: small stones, area reclaim
1050:				
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
Izar	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
1051:				
Pibler	Poor: cemented pan	Improbable: small stones	Improbable: thin layer	Poor: cemented pan, small stones, area reclaim
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
1052:				
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
Gravier	Good	Probable	Probable	Poor: small stones, area reclaim
1054:				
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
1054 (con.):				
Wiffo	Fair: large stones	Improbable: small stones	Probable	Poor: small stones, area reclaim
1055:				
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
Gravier	Fair: slope	Probable	Probable	Poor: small stones, area reclaim, slope
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
1056:				
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
Valmy	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
1060:				
Kzin	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Holborn	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
1062:				
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Jackpot	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
1064:				
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Golsum	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Golsum	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
1070:				
Loray	Good	Improbable: small stones	Probable	Poor: too sandy, small stones, area reclaim
Luap	Good	Probable	Probable	Poor: small stones, area reclaim
Toano	Good	Improbable: small stones	Probable	Poor: area reclaim, excess salt
1071:				
Loray	Good	Improbable: small stones	Probable	Poor: too sandy, small stones, area reclaim
Luap	Good	Probable	Probable	Poor: small stones, area reclaim
1072:				
Loray	Good	Improbable: small stones	Probable	Poor: too sandy, small stones, area reclaim
Loray	Good	Improbable: small stones	Probable	Poor: too sandy, small stones, area reclaim
Hardhat	Good	Improbable: excess fines	Improbable: excess fines	Poor: too sandy, small stones, area reclaim
1120:				
Ashart	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
Zark	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, too sandy, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
1140:				
Elocin	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Stampede	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
1141:				
Elocin	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Donna	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
1190:				
Tweener	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
1191:				
Tweener	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tweener	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Graley	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
1200:				
Xerxes	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
1200 (con.):				
Bluehill	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
1201:				
Xerxes	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Zark	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, too sandy, small stones
Ashart	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
1203:				
Xerxes	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Xerxes	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
1204:				
Xerxes	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Shalper	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Bluehill	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
1400:				
Nevador	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim, slope
2000:				
Shuttle	Fair: cemented pan, thin layer	Improbable: excess fines	Improbable: excess fines	Poor: small stones, excess salt

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
2000 (con.):				
Shafter	Poor: cemented pan	Probable	Probable	Poor: cemented pan, small stones, area reclaim
Loray	Fair: slope	Improbable: small stones	Probable	Poor: too sandy, small stones, area reclaim
2001:				
Shuttle	Fair: cemented pan, thin layer	Improbable: excess fines	Improbable: excess fines	Poor: small stones, excess salt
Hardhat	Good	Improbable: excess fines	Improbable: excess fines	Poor: too sandy, small stones, area reclaim
Shuttle	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones, area reclaim, excess salt
2010:				
Wiffo Variant	Poor: large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: large stones, area reclaim
2030:				
Cavehill	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Nirac	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
2040:				
Sodhouse	Poor: cemented pan	Probable	Probable	Poor: cemented pan, small stones, area reclaim
Loray	Good	Improbable: small stones	Probable	Poor: too sandy, small stones, area reclaim
2042:				
Sodhouse	Poor: cemented pan	Probable	Probable	Poor: cemented pan, small stones, area reclaim

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
2042 (con.):				
Pibler	Poor: cemented pan	Improbable: small stones	Probable	Poor: cemented pan, small stones, area reclaim
2050:				
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
2051:				
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
2053:				
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tecomar	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Nirac	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
2054:				
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				
2060:				
Appian	Good	Probable	Improbable: too sandy	Poor: too sandy, excess sodium
Kawich	Fair: slope	Improbable: excess fines	Improbable: excess fines	Poor: too sandy, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
2060 (con.):				
Kawich	Good	Improbable: excess fines	Improbable: excess fines	Poor: too sandy
2070:				
Kawich	Good	Improbable: excess fines	Improbable: excess fines	Poor: too sandy
Kawich	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: too sandy, slope
Ixian	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
2080:				
Toano	Good	Improbable: excess fines	Improbable: excess fines	Fair: thin layer
Toano	Good	Improbable: small stones	Probable	Poor: area reclaim, excess salt
2081:				
Toano	Good	Improbable: excess fines	Improbable: excess fines	Fair: thin layer
Tulase	Good	Improbable: excess fines	Improbable: excess fines	Fair: area reclaim
2090:				
Toano	Good	Improbable: small stones	Probable	Poor: area reclaim, excess salt
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Sondoa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
3001:				
Ixian	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
Valmy	Good	Improbable: excess fines	Improbable: excess fines	Poor: small stones
3008:				
Tecomar	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Kram	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
3009:				
Tecomar	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Shalcleav	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Gollaher	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
3010:				
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Gollaher	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3012:				
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Kram	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Amtoft	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
3013:				
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Rock Outcrop.				

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
3014:				
Tecomar	Poor: depth to rock, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Kzin	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3015:				
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3016:				
Tecomar	Poor: depth to rock, large stones	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3017:				
Tecomar	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Amtoft	Poor: depth to rock	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones
Shivlum	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey, slope
3018:				
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
3018 (con.):				
Nirac	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Kram	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3019:				
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Hopeka	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Ekim	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
3020:				
Amtoft	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Kzin	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3021:				
Amtoft	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Rock Outcrop.				
3023:				
Amtoft	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
3023 (con.):				
Jericho	Poor: cemented pan	Improbable: excess fines	Improbable: excess fines	Poor: cemented pan, small stones, area reclaim
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
3025:				
Amtoft	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Arcia	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, slope
Kram	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3030:				
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Izar	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Jackpot	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
3031:				
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Jackpot	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
3032:				
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
3032 (con.):				
Anowell	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3033:				
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Hundraw	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Zapa	Poor: cemented pan	Improbable: small stones	Probable	Poor: small stones, area reclaim
3036:				
Cobre	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Fair: depth to rock, small stones, thin layer
Enko	Good	Improbable: excess fines	Improbable: excess fines	Poor: excess salt
3040:				
Player	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
McIvey	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Hogmalat	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
3070:				
Arva	Poor: shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Chen	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Sumine	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
3080:				
Fenelon	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Lerrow Variant	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones, area reclaim
Cotant	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
3081:				
Fenelon	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
3100:				
Kleckner	Fair: large stones	Probable	Probable	Poor: too clayey, small stones, area reclaim
Stampede	Poor: cemented pan, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
4000:				
Wicup	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Anowell	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
Kzin	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones
4001:				
Wicup	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Fenelon	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
Akler	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
4002:				
Wicup	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
Gochea	Good	Probable	Probable	Poor: small stones, area reclaim
Gumble	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
4020:				
Akler	Poor: depth to rock, shrink-swell, low strength	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, too clayey, small stones
Cleavage	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Elocin	Good	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, small stones
4040:				
Kram	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Amtoft	Poor: depth to rock, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
Nirac	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: small stones, slope
4041:				
Kram	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Tecomar	Poor: depth to rock, large stones, slope	Improbable: excess fines, large stones	Improbable: excess fines, large stones	Poor: depth to rock, small stones, slope
4042:				
Kram	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones

TABLE 8--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
4042 (con.):				
Hooplite	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope
Yuko	Poor: depth to rock, slope	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock, small stones, slope

TABLE 9.--ENGINEERING INDEX 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		
	In				Pct	Pct					Pct	
10:												
Yuko	0-4	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP
Akler	0-6	Loam	CL, SC	A-6	0	0-10	80-90	75-85	65-80	45-65	30-35	10-15
	6-18	Clay	CH	A-7	0	0	80-100	75-100	65-90	50-70	55-70	30-45
	18-22	Weathered bedrock			0	0	0	0	0	0	---	NP
20:												
Donna	0-11	Extremely cobbly clay loam	GC	A-2, A-6, A-7	0-5	40-60	45-60	40-55	35-50	25-45	35-45	20-25
	11-21	Clay	CH	A-7	0	0	80-90	75-90	70-85	65-85	65-75	35-45
	21-41	Indurated			0	0	0	0	0	0	---	NP
	41-60	Stratified very gravelly sandy loam to very gravelly sandy clay loam	GC	A-2	0	0	40-55	35-50	20-45	15-25	25-35	10-15
Igdell	0-2	Very gravelly clay loam	GC	A-7, A-6, A-2	0	0-10	45-60	35-50	30-50	25-40	35-45	15-20
	2-31	Clay, gravelly clay, silty clay	GC, CH	A-7	0	0-10	60-100	55-90	50-85	45-80	50-70	25-40
	31-37	Gravelly clay loam, very gravelly sandy clay loam, gravelly loam	GC, CL, GM, ML	A-6, A-7, A-2	0	0-10	50-90	45-85	35-85	25-70	35-45	10-20
	37-45	Indurated			0	0	0	0	0	0	---	NP
Vanwyper	0-8	Very stony loam	CL	A-6	5-25	0-15	70-95	65-85	60-80	50-65	25-35	10-15
	8-35	Very cobbly clay, very cobbly clay loam	GC, CL, CH	A-7	0-15	30-55	55-75	50-65	45-60	40-55	40-60	20-40
	35-39	Unweathered bedrock			0	0	0	0	0	0	---	NP
21:												
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
21 (con.):												
Stampede	0-5	Gravelly loam	CL	A-6	0	0	70-80	65-75	60-70	50-65	25-35	10-15
	5-27	Clay, silty clay	CH	A-7	0	0-10	90-100	85-95	80-90	70-85	50-60	30-40
	27-60	Indurated			0	0	0	0	0	0	---	NP
22:												
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
Igdell	0-2	Very gravelly clay loam	GC	A-7, A-6, A-2	0	0-10	45-60	35-50	30-50	25-40	35-45	15-20
	2-31	Clay, gravelly clay, silty clay	GC, CH	A-7	0	0-10	60-100	55-90	50-85	45-80	50-70	25-40
	31-37	Gravelly clay loam, very gravelly sandy clay loam, gravelly loam	GC, CL, GM, ML	A-6, A-7, A-2	0	0-10	50-90	45-85	35-85	25-70	35-45	10-20
	37-45	Indurated			0	0	0	0	0	0	---	NP
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
23:												
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
23 (con.):												
Kleckner	0-7	Gravelly loam	CL-ML, ML	A-4	0	10-25	65-90	60-85	55-80	50-75	25-35	5-10
	7-33	Very gravelly clay, very cobbly clay loam, very cobbly clay	GC	A-2, A-7	0	10-45	45-70	30-60	30-55	25-45	40-55	25-35
	33-42	Very gravelly clay loam, very gravelly clay, very cobbly clay	GC, SC	A-2, A-7	0	0-45	45-90	25-60	25-55	20-50	40-55	25-35
	42-60	Loam, gravelly loam	GM-GC, GM, CL-ML, ML	A-4	0	0-5	65-90	60-85	50-75	40-60	20-30	NP-10
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
31:												
Welch	0-14	Silt loam	CL-ML	A-4	0	0	95-100	95-100	85-95	60-70	25-30	5-10
	14-62	Stratified sandy loam to silty clay loam	CL	A-6	0	0	80-100	75-100	65-90	50-70	30-40	10-20
Crooked Creek	0-7	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-95	35-45	15-20
	7-40	Silty clay, clay	CL, CH	A-7	0	0	100	95-100	90-100	75-95	40-55	20-30
	40-60	Stratified very gravelly sandy loam to extremely gravelly sand	GM, GP-GM	A-1	0	0-10	25-45	20-40	10-30	5-15	---	NP
32:												
Welch	0-14	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	70-90	35-40	15-20
	14-62	Stratified sandy loam to silty clay loam	CL	A-6	0	0	80-100	75-100	65-90	50-70	30-40	10-20
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	75-90	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	90-100	80-95	25-35	5-15
34:												
Welch	0-14	Loam	CL-ML	A-4	0	0	95-100	95-100	85-95	60-70	25-30	5-10
	14-62	Stratified sandy loam to silty clay loam	CL	A-6, A-7	0	0	80-100	75-100	65-90	50-70	35-45	15-20

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
34 (con.):												
Crooked Creek---	0-18	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	80-90	35-45	15-20
	18-61	Silty clay, clay	CL, CH	A-7	0	0	90-100	80-100	70-90	65-85	40-55	20-25
35:												
Welch----------	0-5	Loam	CL-ML, CL	A-4	0	0	95-100	95-100	85-95	60-70	25-30	5-10
	5-41	Stratified sandy loam to silty clay loam	CL	A-6	0	0	80-100	75-100	65-90	50-70	30-40	10-20
	41-61	Stratified very gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-10	20-50	15-50	10-35	0-10	---	NP
Welch----------	0-5	Loam	CL-ML, CL	A-4	0	0	95-100	95-100	85-95	60-70	25-30	5-10
	5-41	Stratified sandy loam to silty clay loam	CL	A-6	0	0	80-100	75-100	65-90	50-70	30-40	10-20
	41-61	Stratified very gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-10	20-50	15-50	10-35	0-10	---	NP
Gochea----------	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
40:												
McIvey----------	0-13	Gravelly loam	GC, SC	A-6	0	0-10	60-85	50-75	45-70	35-50	30-40	10-15
	13-18	Very gravelly loam	GC	A-2, A-6	0	0-10	50-60	45-55	35-50	25-45	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	GC, SC, CL	A-7	0	0-10	55-85	45-75	40-70	35-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0	0-55	45-60	35-50	35-45	30-45	45-55	20-30

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
40 (con.):												
Quarz	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP
60:												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Arva	0-15	Gravelly loam	GC, SC	A-6	0	0	60-85	50-75	45-65	35-50	30-35	10-15
	15-44	Gravelly clay, clay	GC, CH, CL, SC	A-7	0	0-10	60-85	50-85	45-80	45-65	45-60	25-35
	44-54	Weathered bedrock			0	0	0	0	0	0	---	NP
Lerrow	0-10	Gravelly loam	SC	A-6	0	0-10	70-80	60-75	55-65	40-50	30-35	10-15
	10-16	Clay loam, gravelly clay loam	CL, GC	A-7	0	0	55-90	50-85	45-80	35-65	40-50	20-25
	16-24	Cobbly clay, gravelly clay, clay	CH	A-7	0-5	10-25	75-95	65-85	60-75	55-70	50-60	25-35
	24-28	Weathered bedrock			0	0	0	0	0	0	---	NP
70:												
Stampede	0-5	Gravelly loam	CL	A-6	0	0	70-80	65-75	60-70	50-65	25-35	10-15
	5-27	Clay, silty clay	CH	A-7	0	0-10	90-100	85-95	80-90	70-85	50-60	30-40
	27-60	Indurated			0	0	0	0	0	0	---	NP
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
72:												
Stampede	0-5	Gravelly loam	CL	A-6	0	0	70-80	65-75	60-70	50-65	25-35	10-15
	5-27	Clay, silty clay	CH	A-7	0	0-10	90-100	85-95	80-90	70-85	50-60	30-40
	27-60	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
72 (con.):												
Simon----------	0-13	Silt loam	ML, CL-ML	A-4	0	0	80-100	75-100	65-80	50-65	20-30	NP-10
	13-43	Gravelly clay loam, clay loam	CL	A-6, A-7	0	0	65-95	60-90	55-85	50-70	35-45	15-20
	43-60	Gravelly loam	GC	A-6	0	0	55-75	50-70	45-65	35-50	25-35	10-15
Arva----------	0-15	Gravelly loam	GC, SC	A-6	0	0	60-85	50-75	45-65	35-50	30-35	10-15
	15-44	Gravelly clay, clay	GC, CH, CL, SC	A-7	0	0-10	60-85	50-85	45-80	45-65	45-60	25-35
	44-54	Weathered bedrock			0	0	0	0	0	0	---	NP
80:												
Wieland---------	0-8	Loam	CL-ML, ML	A-4	0	0	90-100	75-100	70-90	50-75	20-30	NP-10
	8-22	Gravelly clay, clay	CH, SC	A-7	0	0-5	75-95	55-90	50-80	45-75	50-60	25-35
	22-28	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-6, A-2	0	0-5	60-85	50-70	40-70	25-50	35-40	15-20
	28-64	Loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM	A-4, A-2	0	0-5	65-95	55-90	40-85	25-70	20-30	5-10
Chiara----------	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Puett----------	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
81:												
Wieland---------	0-8	Gravelly loam	SC	A-6	0	0-5	80-90	60-75	55-70	40-50	30-35	10-15
	8-22	Gravelly clay, clay	CH, GC	A-7	0	0-5	55-95	50-90	50-75	45-60	50-60	25-35
	22-44	Gravelly loam	SC-SM	A-4	0	0-5	75-80	60-70	55-65	40-50	20-25	5-10
	44-64	Very gravelly loamy sand, extremely gravelly loamy sand	GW-GM, GP-GM	A-1	0	0-5	40-50	20-35	10-25	5-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
81 (con.):												
Gance----------	0-5	Very gravelly loam	GC	A-2, A-6	0	0-25	45-70	30-50	25-45	20-40	30-35	10-15
	5-20	Very gravelly clay, very gravelly sandy clay, extremely gravelly clay	GC	A-2, A-7	0-5	0-30	40-70	20-55	15-55	10-40	40-60	20-35
	20-60	Extremely gravelly sandy loam, very cobbly sandy loam, extremely gravelly loam	GM, GM-GC, GP-GM	A-2, A-4, A-1	0-5	15-55	25-60	20-55	10-50	5-40	20-30	NP-10
Nevador---------	0-6	Loam	ML	A-4	0	0	95-100	95-100	90-100	50-70	20-30	NP-5
	6-24	Clay loam, sandy clay loam, loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified gravelly fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
82:												
Wieland---------	0-8	Gravelly loam	SC	A-6	0	0-5	80-90	60-75	55-70	40-50	30-35	10-15
	8-22	Gravelly clay, clay	CH, GC	A-7	0	0-5	55-95	50-90	50-75	45-60	50-60	25-35
	22-44	Gravelly loam	SC-SM	A-4	0	0-5	75-80	60-70	55-65	40-50	20-25	5-10
	44-64	Very gravelly loamy sand, extremely gravelly loamy sand	GW-GM, GP-GM	A-1	0	0-5	40-50	20-35	10-25	5-10	0-14	NP
Hunnton---------	0-8	Gravelly loam	GC, CL	A-6	0	0-5	60-75	55-70	50-65	45-55	25-35	10-15
	8-22	Clay, gravelly clay	CH	A-7	0	0-5	75-100	60-95	60-95	55-85	50-60	25-35
	22-36	Indurated			0	0	0	0	0	0	---	NP
	36-60	Very gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GM	A-1	0	0	30-50	20-45	15-35	5-20	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
82 (con.):												
Hunewill	0-6	Gravelly loam	GM, GM-GC, SM, SC-SM	A-4	0	0	55-85	50-75	45-65	35-50	20-30	NP-10
	6-20	Very gravelly clay loam, very gravelly sandy clay loam, very gravelly loam	GC, GM	A-2, A-6	0	0-15	45-55	40-50	30-45	20-40	35-40	10-15
	20-61	Extremely cobbly sand, extremely gravelly sand, extremely cobbly loamy sand	GP, GP-GM	A-1	0-5	15-50	35-45	30-40	10-25	0-10	---	NP
83:												
Wieland	0-8	Gravelly loam	SC	A-6	0	0-5	80-90	60-75	55-70	40-50	30-35	10-15
	8-22	Gravelly clay, clay	CH, GC	A-7	0	0-5	55-95	50-90	50-75	45-60	50-60	25-35
	22-44	Gravelly loam	SC-SM	A-4	0	0-5	75-80	60-70	55-65	40-50	20-25	5-10
	44-64	Very gravelly loamy sand, extremely gravelly loamy sand	GW-GM, GP-GM	A-1	0	0-5	40-50	20-35	10-25	5-10	0-14	NP
Nevador	0-6	Loam	ML	A-4	0	0	95-100	95-100	90-100	50-70	20-30	NP-5
	6-24	Clay loam, sandy clay loam, loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified gravelly fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
90:												
Hunnton	0-8	Gravelly loam	GC, CL	A-6	0	0-5	60-75	55-70	50-65	45-55	25-35	10-15
	8-22	Clay, gravelly clay	CH	A-7	0	0-5	75-100	60-95	60-95	55-85	50-60	25-35
	22-36	Indurated			0	0	0	0	0	0	---	NP
	36-60	Very gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GM	A-1	0	0	30-50	20-45	15-35	5-20	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
90 (con.):												
Chiara----------	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Bilbo----------	0-2	Very gravelly sandy clay loam	GC	A-2, A-6	0	0-10	40-65	30-50	25-45	15-40	35-40	15-20
	2-18	Very gravelly clay, very gravelly sandy clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	45-65	35-50	30-45	20-40	40-55	20-35
	18-32	Extremely gravelly sandy clay, very gravelly sandy clay	GC	A-2	0	0-25	30-50	20-40	15-40	10-25	40-55	20-35
	32-60	Extremely gravelly loamy sand, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	30-60	15-50	10-40	5-20	15-25	NP-5
93:												
Hunnton----------	0-8	Silt loam	ML	A-4	0	0	95-100	85-100	75-100	60-75	20-35	NP-10
	8-14	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-95	60-90	30-35	10-15
	14-22	Clay, gravelly clay	CH	A-7	0	0-5	75-100	60-95	60-95	55-85	50-60	25-35
	22-36	Indurated			0	0	0	0	0	0	---	NP
	36-60	Very gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GM	A-1	0	0	25-50	20-45	15-35	5-20	---	NP
Wieland----------	0-8	Loam	CL-ML, ML	A-4	0	0	90-100	75-100	70-90	50-75	20-30	NP-10
	8-22	Gravelly clay, clay	CH, SC	A-7	0	0-5	75-95	55-90	50-80	45-75	50-60	25-35
	22-28	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-6, A-2	0	0-5	60-85	50-70	40-70	25-50	35-40	15-20
	28-64	Loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM	A-4, A-2	0	0-5	65-95	55-90	40-85	25-70	20-30	5-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
94:												
Hunnton	0-8	Silt loam	ML	A-4	0	0	95-100	85-100	75-100	60-75	20-35	NP-10
	8-14	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-95	60-90	30-35	10-15
	14-22	Clay, gravelly clay	CH	A-7	0	0-5	75-100	60-95	60-95	55-85	50-60	25-35
	22-36	Indurated			0	0	0	0	0	0	---	NP
	36-60	Very gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GM	A-1	0	0	25-50	20-45	15-35	5-20	---	NP
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Wieland	0-8	Loam	CL-ML, ML	A-4	0	0	90-100	75-100	70-90	50-75	20-30	NP-10
	8-22	Gravelly clay, clay	CH, SC	A-7	0	0-5	75-95	55-90	50-80	45-75	50-60	25-35
	22-28	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-6, A-2	0	0-5	60-85	50-70	40-70	25-50	35-40	15-20
	28-64	Loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM	A-4, A-2	0	0-5	65-95	55-90	40-85	25-70	20-30	5-10
120:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
121:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
123:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Oupico	0-4	Loam	SM, ML	A-4	0	0	95-100	95-100	85-90	45-75	20-25	NP-5
	4-25	Gravelly loam, loam, sandy loam	SM, ML	A-2, A-4	0	0	65-95	60-90	45-80	25-65	15-25	NP-5
	25-49	Indurated			0	0	0	0	0	0	---	NP
	49-62	Stratified sandy loam to very fine sandy loam	SM, ML	A-4	0	0	80-95	75-95	70-80	40-55	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
124:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Gance	0-5	Very gravelly loam	GC	A-2, A-6	0	0-25	45-70	30-50	25-45	20-40	30-35	10-15
	5-20	Very gravelly clay, very gravelly sandy clay, extremely gravelly clay	GC	A-2, A-7	0-5	0-30	40-70	20-55	15-55	10-40	40-60	20-35
	20-60	Extremely gravelly sandy loam, very cobbly sandy loam, extremely gravelly loam	GM, GM-GC, GP-GM	A-2, A-4, A-1	0-5	15-55	25-60	20-55	10-50	5-40	20-30	NP-10
125:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
125 (con.):												
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
126:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
127:												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
129:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP
130:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Wieland	0-8	Loam	CL-ML, ML	A-4	0	0	90-100	75-100	70-90	50-75	20-30	NP-10
	8-22	Gravelly clay, clay	CH, SC	A-7	0	0-5	75-95	55-90	50-80	45-75	50-60	25-35
	22-28	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-6, A-2	0	0-5	60-85	50-70	40-70	25-50	35-40	15-20
	28-64	Loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM	A-4, A-2	0	0-5	65-95	55-90	40-85	25-70	20-30	5-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
130 (con.):												
Bilbo	0-2	Very gravelly sandy clay loam	GC	A-2, A-6	0	0-10	40-65	30-50	25-45	15-40	35-40	15-20
	2-18	Very gravelly clay, very gravelly sandy clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	45-65	35-50	30-45	20-40	40-55	20-35
	18-32	Extremely gravelly sandy clay, very gravelly sandy clay	GC	A-2	0	0-25	30-50	20-40	15-40	10-25	40-55	20-35
	32-60	Extremely gravelly loamy sand, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	30-60	15-50	10-40	5-20	15-25	NP-5
131:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Hunnton	0-8	Gravelly loam	GC, CL	A-6	0	0-5	60-75	55-70	50-65	45-55	25-35	10-15
	8-22	Clay, gravelly clay	CH	A-7	0	0-5	75-100	60-95	60-95	55-85	50-60	25-35
	22-36	Indurated			0	0	0	0	0	0	---	NP
	36-60	Very gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GM	A-1	0	0	30-50	20-45	15-35	5-20	---	NP
Gance	0-5	Very gravelly loam	GC	A-2, A-6	0	0-25	45-70	30-50	25-45	20-40	30-35	10-15
	5-20	Very gravelly clay, very gravelly sandy clay, extremely gravelly clay	GC	A-2, A-7	0-5	0-30	40-70	20-55	15-55	10-40	40-60	20-35
	20-60	Extremely gravelly sandy loam, very cobbly sandy loam, extremely gravelly loam	GM, GM-GC, GP-GM	A-2, A-4, A-1	0-5	15-55	25-60	20-55	10-50	5-40	20-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
132:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Bilbo	0-2	Very gravelly sandy clay loam	GC	A-2, A-6	0	0-10	40-65	30-50	25-45	15-40	35-40	15-20
	2-18	Very gravelly clay, very gravelly sandy clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	45-65	35-50	30-45	20-40	40-55	20-35
	18-32	Extremely gravelly sandy clay, very gravelly sandy clay	GC	A-2	0	0-25	30-50	20-40	15-40	10-25	40-55	20-35
	32-60	Extremely gravelly loamy sand, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	30-60	15-50	10-40	5-20	15-25	NP-5
133:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
133 (con.):												
Hunnton	0-8	Gravelly loam	GC, CL	A-6	0	0-5	60-75	55-70	50-65	45-55	25-35	10-15
	8-22	Clay, gravelly clay	CH	A-7	0	0-5	75-100	60-95	60-95	55-85	50-60	25-35
	22-36	Indurated			0	0	0	0	0	0	---	NP
	36-60	Very gravelly loamy sand, very gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GM	A-1	0	0	30-50	20-45	15-35	5-20	---	NP
135:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-30	Indurated			0	0	0	0	0	0	---	NP
	30-60	Cemented			0	0	0	0	0	0	---	NP
Yuko	0-4	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP
136:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Nevador	0-6	Loam	ML	A-4	0	0	95-100	95-100	90-100	50-70	20-30	NP-5
	6-24	Clay loam, sandy clay loam, loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified gravelly fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
137:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Gochea	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
138:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-30	Indurated			0	0	0	0	0	0	---	NP
	30-60	Cemented			0	0	0	0	0	0	---	NP
Jackpot	0-4	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	4-11	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-30	Indurated			0	0	0	0	0	0	---	NP
	30-60	Cemented			0	0	0	0	0	0	---	NP
139:												
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
139 (con.):												
Yuko	0-4	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
140:												
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Wieland	0-8	Loam	CL-ML, ML	A-4	0	0	90-100	75-100	70-90	50-75	20-30	NP-10
	8-22	Gravelly clay, clay	CH, SC	A-7	0	0-5	75-95	55-90	50-80	45-75	50-60	25-35
	22-28	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-6, A-2	0	0-5	60-85	50-70	40-70	25-50	35-40	15-20
	28-64	Loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM	A-4, A-2	0	0-5	65-95	55-90	40-85	25-70	20-30	5-10
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
141:												
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
141 (con.):												
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	75-90	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	90-100	80-95	25-35	5-15
144:												
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
150:												
Shalper	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tusel	0-20	Very gravelly fine sandy loam	GM	A-2	0	0-15	50-60	40-50	35-45	25-35	25-35	NP-10
	20-42	Very gravelly clay loam, extremely gravelly sandy clay loam, extremely gravelly clay loam	GC	A-2	0	15-45	30-50	25-40	20-35	15-30	30-40	10-20
	42-52	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE [illegible]--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number---				Liquid limit	Plasticity index
			Unified	AASHTO	3 inches	3-inches	4	10	40	200		
	In				Pct	Pct					Pct	
150 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	15-35	15-25	25-30	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-6, A-4	0-5	15-30	50-60	45-60	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-6	15	25-50	45-60	40-45	35-40	30-35	40-50	20-3
	12-16	Unweathered bedrock					0	0	0	0	---	NP
151:												
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-4	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-4	0	0-25	0-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock								0	---	NP
Sougha----------	0-6	Very gravelly coarse sandy loam	GM, SM-G	A-2, A-4	0-5	0-10	40-60	30-50	20-30	15-25	20-30	NP-10
	6-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC, SC	A-6	0	0-10	35-65	25-55	25-35	20-25	35-40	15-20
	14-16	Unweathered bedrock									---	NP
154:												
Rock outcrop.												
Shalper---------	0-9	Very gravelly sandy loam	SC-SM, GM-GC	A-2	0	0-10	40-60	30-50	25-35	10-20	20-25	5-10
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-6, A-4	0	0-10	0-60	25-50	20-45	15-40	0-40	15-20
	12-16	Unweathered bedrock			0	0		0	0	0	---	NP
Contact---------	0-18	Gravelly loamy coarse sand	SP-SM, SM	A-1			40-100	20-70	20-40	5-15	0-14	NP
	18-60	Gravelly loamy coarse sand, gravelly coarse sand gravelly loamy sand	SP-SM, SM	A-1	0	0-10	40-100	20-70	20-40	5-20	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
155: Rock Outcrop.												
Shalper	0-9	Very gravelly sandy loam	SC-SM, GM-GC	A-2	0	0-10	45-65	25-50	15-35	10-20	20-25	5-10
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Pequop	0-10	Gravelly loam	GM-GC, CL-ML	A-4	0	5-10	60-80	55-75	40-70	35-55	20-30	5-10
	10-60	Very gravelly sandy clay loam, extremely gravelly sandy clay loam, very gravelly clay loam	GC	A-2	0	10-30	30-55	25-50	10-40	10-35	30-40	10-20
156: Shalper	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
Yuko	0-2	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	2-6	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	6-8	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	8-12	Weathered bedrock				0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
160:												
Dacker	0-7	Silt loam	CL-ML, ML	A-4	0	0-5	90-100	85-100	75-100	60-90	25-35	5-10
	7-11	Silty clay loam, gravelly silty clay loam	CL	A-6	0	0-5	75-100	70-90	65-90	60-85	35-40	15-20
	11-17	Silt loam, silty clay loam, gravelly silt loam	CL, GC	A-6	0	0-5	55-100	50-90	45-90	40-85	35-40	15-20
	17-22	Silt loam, gravelly silt loam, gravelly loam	CL, GC	A-6	0	0-5	55-100	50-90	45-90	40-85	30-35	10-15
	22-42	Indurated			0	0	0	0	0	0	---	NP
Nevador	0-6	Loam	ML	A-4	0	0	85-100	95-100	90-100	50-70	20-30	NP-5
	6-24	Clay loam, sandy clay loam, loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified gravelly fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
161:												
Dacker	0-7	Silt loam	CL-ML, ML	A-4	0	0-5	90-100	85-100	75-100	60-90	25-35	5-10
	7-11	Silty clay loam, gravelly silty clay loam	CL	A-6	0	0-5	75-100	70-90	65-90	60-85	35-40	15-20
	11-17	Silt loam, silty clay loam, gravelly silt loam	CL, GC	A-6	0	0-5	55-100	50-90	45-90	40-85	35-40	15-20
	17-22	Silt loam, gravelly silt loam, gravelly loam	CL, GC	A-6	0	0-5	55-100	50-90	45-90	40-85	30-35	10-15
	22-38	Indurated			0	0	0	0	0	0	---	NP
Yuko	0-4	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	25-45	15-35	20-30	NP-10
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
161 (con.):												
Wieland	0-8	Loam	CL-ML, ML	A-4	0	0	90-100	75-100	70-90	50-75	20-30	NP-10
	8-22	Gravelly clay, clay	CH, SC	A-7	0	0-5	75-95	55-90	50-80	45-75	50-60	25-35
	22-28	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-6, A-2	0	0-5	60-85	50-70	40-70	25-50	35-40	15-20
	28-64	Loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM	A-4, A-2	0	0-5	65-95	55-90	40-85	25-70	20-30	5-10
163:												
Dacker	0-7	Silt loam	CL-ML, ML	A-4	0	0-5	90-100	85-100	75-100	60-90	25-35	5-10
	7-11	Silty clay loam, gravelly silty clay loam	CL	A-6	0	0-5	75-100	70-90	65-90	60-85	35-40	15-20
	11-17	Silt loam, silty clay loam, gravelly silt loam	CL, GC	A-6	0	0-5	55-100	50-90	45-90	40-85	35-40	15-20
	17-22	Silt loam, gravelly silt loam, gravelly loam	CL, GC	A-6	0	0-5	55-100	50-90	45-90	40-85	30-35	10-15
	22-38	Indurated			0	0	0	0	0	0	---	NP
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
170:												
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
170 (con.):												
Enko	0-3	Very fine sandy loam	CL-ML	A-4	0	0	95-100	85-100	75-100	50-70	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
171:												
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
Chiara	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	25-35	NP-5
	4-14	Very fine sandy loam, loam, silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-80	25-35	NP-5
	14-18	Indurated			0	0	0	0	0	0	---	NP
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
174:												
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
Jericho	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
175:												
Wiffo	0-14	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	30-45	20-35	15-25	NP-10
	14-53	Very gravelly sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0-15	0-30	20-40	15-35	10-25	5-15	15-20	NP-5
	53-63	Stratified extremely gravelly sandy loam to very gravelly coarse sand	GP-GM, GM	A-1	0-10	0-30	20-40	15-35	10-20	5-15	15-20	NP-5
Nevador	0-6	Loam	ML	A-4	0	0	95-100	95-100	90-100	50-70	20-30	NP-5
	6-24	Clay loam, sandy clay loam, loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified gravelly fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
180:												
Sonoma	0-8	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	ML, CL	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
Devilsgait	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-95	65-80	20-30	NP-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
Sonoma	0-8	Silt loam	CL	A-6	0	0	95-100	95-100	85-100	70-90	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
182:												
Sonoma	0-6	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-45	15-20
	6-42	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
	42-60	Silty clay	MH	A-7	0	0	95-100	95-100	90-100	85-95	50-60	20-25
Devilsgait	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
Sonoma	0-8	Silt loam	CL	A-6	0	0	95-100	95-100	85-100	70-90	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
183:												
Sonoma----------	0-8	Silt loam	CL	A-6	0	0	100	100	85-100	70-90	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
Sonoma----------	0-8	Silt loam	CL	A-6	0	0	95-100	95-100	85-100	70-90	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
185:												
Sonoma----------	0-6	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-45	15-20
	6-42	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
	42-60	Silty clay	MH	A-7	0	0	95-100	95-100	90-100	85-95	50-60	20-25
Ocala Variant---	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-50	15-25
	5-61	Stratified silty clay loam to silty clay	CL, CH	A-7	0	0	100	100	90-100	80-90	45-60	20-30
186:												
Sondoa----------	0-4	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	85-95	30-40	5-15
	4-63	Stratified silty clay loam to silt loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-50	10-25
Ixian-----------	0-12	Silt loam	CL	A-6	0	0	100	100	90-100	80-95	25-35	10-15
	12-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-50	15-25
	42-63	Stratified loamy fine sand to silty clay	CL, CH	A-7	0	0	100	100	95-100	85-95	40-60	20-30
Ixian-----------	0-12	Silty clay loam	CL, CH	A-7	0	0	100	100	95-100	90-95	40-55	20-30
	12-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-50	15-25
	42-63	Stratified loamy fine sand to silty clay	CL, CH	A-7	0	0	100	100	95-100	85-95	40-60	20-30
187:												
Sonoma----------	0-8	Silt loam	CL	A-6	0	0	95-100	95-100	85-100	70-90	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>3 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
[illegible]												
Delepla[illegible]	0-8	Silt loam	ML, CL-ML	A-4	0	0	95-100	90-100	80-90	75-85	20-30	NP-10
	8-34	Silt loam, gravelly silt loam	CL-ML, CL	A-4, A-6	0	0	85-100	80-100	75-95	70-85	25-40	5-15
	34-51	Gravelly loamy coarse sand	SM	A-1, A-2	0	0	65-80	60-75	35-60	20-30	0-14	NP
	51+	Stratified very gravelly coarse sand to extremely gravelly coarse sand	SP-SM, GP	A-1	0	0	25-45	20-35	5-20	0-10	0-14	NP
[illegible]	0-8	Silt loam	ML, CL	A-4, A-6	0	0	100	100	90-100	70-80	30-40	5-15
	8-47	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	47+	Stratified gravelly very fine sandy loam to silt loam	SM, SM, ML	A-4	0	0	85-95	80-85	60-75	35-65	---	NP
[illegible]												
Pirtle	0-10	Gravelly silty clay loam	CL	A-7, A-6	0	0	75-80	70-75	65-75	60-70	35-45	15-20
	10-21	Gravelly clay, clay	CH	A-7	0	0	85-95	80-90	75-90	60-85	50-70	30-50
	21-31	Very gravelly clay	CH	A-7, A-2	0	0	45-55	40-50	40-65	30-45	50-70	30-50
	31-37	Indurated			0	0	0	0	0	0	---	NP
	37+	Unweathered bedrock			0	0	0	0	0	0	---	NP
[illegible]	0-[illegible]	Very gravelly clay loam	GC	A-7, A-6, A-2	0	0	45-60	35-50	30-60	25-40	35-45	15-20
	8-31	Clay, gravelly clay, silty clay	CH, CH	A-7	0-5	0-10	85-95	80-90	70-85	45-80	50-70	25-40
	31-37	Gravelly clay loam, very gravelly sandy clay loam, gravelly loam	CH, CL, SM, ML	A-7, A-7, A-2	0-10	0-20	60-75	45-65	35-65	15-70	35-45	10-20
	37-48	Indurated			0	0	0	0	0	0	---	NP
[illegible]												
[illegible]	0-[illegible]	Gravelly [illegible] clay loam	CL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	10-[illegible]	Gravelly clay, clay	CH	A-7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	Very gravelly clay	CH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	Indurated			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	---	NP
	[illegible]	Unweathered bedrock			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	---	NP

TABLE [illegible]--ENGINEERING INDEX PROPERTIES--[illegible]

Map symbol and soil name	Depth	USDA texture	Classification			Fragments		Percentage passing sieve number--			Liquid limit	Plasticity index
			Unified	AASHTO		> 3 inches	3-10 inches					
	In					Pct	Pct					
161 [illegible]:												
Chaysin----------	0-3	Loam	CL, ML, OL	A-4				75-85	70-80	50-70	20-30	4-10
	3-8	Loam, clay loam	CL	A-6		0-5	0-5	75-85	70-80	55-75	30-40	10-20
	8-60	Gravelly loam, loam, clay loam	GC, SC	A-2, A-4, A-6		0-5	0-10	30-50	25-45	20-40	20-35	5-15
	60+	Indurated										NP
Igdell----------	0-2	Very gravelly clay loam	GC	A-2, A-4, A-6		0-5	0-10	30-50	25-45	20-40	25-40	10-20
	2-31	Clay, gravelly clay, silty clay	GC, CH	A-7		0-5	0-10	70-90	65-85	60-80	45-70	25-45
	31-37	Gravelly clay loam, very gravelly sandy clay loam, gravelly loam	GC, SC, CL	A-2, A-4, A-6		0-5	0-10	30-50	25-45	20-40	25-40	10-20
	37-48	Indurated										NP
199:												
Chayson----------	0-8	Loam	CL, ML, OL	A-4, A-6		0-5	0-5	75-85	70-80	55-75	25-35	5-15
	8-21	Loam, clay loam	CL	A-6		0-5	0-5	75-85	70-80	55-75	30-40	10-20
	21-36	Gravelly loam, loam, clay loam	GC, SC	A-2, A-4, A-6		0-5	0-10	30-50	25-45	20-40	20-35	5-15
	36-47	Indurated										NP
Igdell----------	0-2	Very gravelly clay loam	GC	A-2, A-4, A-6		0-5	0-10	30-50	25-45	20-40	25-40	10-20
	2-31	Clay, gravelly clay, silty clay	GC, CH	A-7		0-5	0-10	70-90	65-85	60-80	45-70	25-45
	31-37	Gravelly clay loam, very gravelly sandy clay loam, gravelly loam	GC, SC, CL	A-2, A-4, A-6		0-5	0-10	30-50	25-45	20-40	25-40	10-20
	37-48	Indurated										NP
[illegible]:												
Crooked Creek----	0-18	Silty clay, clay loam	CL	A-6, A-7		0-5	0-5	75-90	70-85	55-75	30-45	15-25
	18-41	Silty clay, clay	CL, CH	A-6, A-7		0-5	0-5	75-90	70-85	55-75	40-55	20-30
Crooked Creek----	0-18	Silt loam	CL	A-6		0-5	0-5	75-90	70-85	55-75	25-35	5-15
	18-41	Clay, silty clay	CH	A-7		0-5	0-5	75-90	70-85	55-75	45-60	25-40
Welch----------	0-4	Silty clay, clay	CL	A-6, A-7		0-5	0-5	75-90	70-85	55-75	30-45	15-25
	4-41	Stratified gravelly clay loam to clay	CL	A-6, A-7		0-5	0-5	75-90	70-85	55-75	30-45	15-25

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
219:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia-----------	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP
220:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
220 (con.):												
Arcia	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP
221:												
Shalcleav	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 8.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
201												
Shaldeav-----	0-6	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	6-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-11	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	11-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Diser-----	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-11	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	11-18	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	18-21	Weathered bedrock			0	0	0	0	0	0	---	NP
202												
Shaldeav-----	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-11	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	11-19	Unweathered bedrock				0	0	0	0	0	---	NP
Kilauea-----	0-1	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	1-7	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-1	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	7-1	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
223 (con.):												
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-6
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
224:												
Shalcleav--------	0-4	Extremely gravelly silt loam	GM-GC	A-1	0	0-10	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-60	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Graley----------	0-9	Extremely gravelly loam	GC	A-2	0	0-5	25-35	15-25	10-15	10-20	25-35	10-15
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-65	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia-----------	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
225:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Rodie-----------	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5
Lerrow----------	0-10	Gravelly loam	SC	A-6	0	0-10	70-80	60-75	55-65	40-50	30-35	10-15
	10-16	Clay loam, gravelly clay loam	CL, GC	A-7	0	0	55-90	50-85	45-80	35-65	40-50	20-25
	16-24	Cobbly clay, gravelly clay, clay	CH	A-7	0-5	10-25	75-95	65-85	60-75	55-70	50-60	25-35
	24-28	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
226:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-55	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-55	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Quopant---------	0-5	Very gravelly sandy loam	GM	A-1	0	10-15	40-60	35-55	20-40	10-20	20-25	NP-5
	5-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	10-15	40-60	35-55	30-50	15-40	25-35	10-20
	14-18	Sandy loam	SM, SC-SM	A-2	0	0-10	100	100	35-60	25-35	20-30	NP-10
	18-22	Weathered bedrock			0	0	0	0	0	0	---	NP
Rodie-----------	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	SM, SP-SM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5

TABLE 4.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
22*:												
Shaliea-----	0-4	Extremely gravelly silt loam	GM,GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-17	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shaliea-----	0-4	Extremely gravelly silt loam	GM,GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-17	Unweathered bedrock			0	0	0	0	0	0	---	NP
Pride-----	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-34	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	34-47	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
228:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Rodie-----------	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
229:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
232:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
232 (con.):												
Quarz----------	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP
235:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
236:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
236 (con.):												
McIvey----------	0-13	Gravelly loam	GC, SC	A-6	0	0-10	60-85	50-75	45-70	35-50	30-40	10-15
	13-18	Very gravelly loam	GC	A-2, A-6	0	0-10	50-60	45-55	35-50	25-45	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	GC, SC, CL	A-7	0	0-10	55-85	45-75	40-70	35-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0	0-55	45-60	35-50	35-45	30-45	45-55	20-30
237:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Keman-----------	0-38	Gravelly loam	GM-GC, SC-SM	A-4	0	0-10	25-80	20-75	20-70	15-50	20-25	5-10
	38-60	Very gravelly loam, extremely gravelly clay loam	GC	A-2	0-5	0-25	25-50	15-40	15-35	10-30	30-40	15-25

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
238:												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia-----------	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP
239:												
Rock Outcrop.												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
239 (con.):												
Tweener	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
240:												
Gumble	0-4	Gravelly sandy loam	SC-SM	A-1, A-2	0	0-10	60-70	50-60	30-40	15-25	25-30	5-10
	4-16	Clay, gravelly clay	CH, GC	A-7	0	0-15	65-100	60-90	55-85	45-70	50-65	25-40
	16-20	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
250:												
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
250 (con.):												
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP
Soughe	0-4	Very gravelly coarse sandy loam	GM, GM-GC	A-1, A-2	0	0-10	40-60	30-50	20-30	10-20	20-30	NP-10
	4-11	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC, SC	A-2	0	0-15	35-65	25-55	15-25	10-20	35-40	15-20
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
251:												
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
251 (con.):												
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
252:												
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP
Jackpot	0-4	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	4-11	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Soughe	0-4	Very gravelly coarse sandy loam	GM, GM-GC	A-1, A-2	0	0-10	40-60	30-50	20-30	10-20	20-30	NP-10
	4-11	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC, SC	A-2	0	0-15	35-65	25-55	15-25	10-20	35-40	15-20
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
253:												
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP
Jackpot	0-4	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	4-11	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
260:												
Bancy	0-7	Silty clay loam	CL	A-6, A-7	0	0-10	90-95	85-90	80-90	75-85	35-45	15-25
	7-14	Silty clay	CL, CH	A-7	0	0-10	90-95	85-90	80-90	75-85	45-55	25-30
	14-18	Cobbly silty clay	CL, CH	A-7	0	15-30	75-95	70-90	65-90	65-85	45-55	25-30
	18-24	Indurated			0	0	0	0	0	0	---	NP
	24-28	Unweathered bedrock			0	0	0	0	0	0	---	NP
Heckison	0-6	Silt loam	CL-ML, ML	A-4	0	0-10	95-100	90-100	85-95	70-90	20-30	NP-10
	6-28	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0-10	85-100	80-100	75-95	60-85	25-40	5-20
	28-33	Gravelly silt loam, silt loam, very fine sandy loam	ML, CL-ML, GM, GM-GC	A-4	0	0-20	65-95	60-95	55-90	40-70	15-25	NP-10
	33-39	Indurated			0	0	0	0	0	0	---	NP
	39-43	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
270:												
Cameek----------	0-2	Silt loam	CL	A-6	0	0	80-95	75-90	65-90	50-80	30-35	10-15
	2-8	Clay loam	CL	A-7	0	0	80-95	75-90	70-90	55-70	40-50	20-25
	8-19	Clay, gravelly clay, gravelly sandy clay	GC, SC, CH	A-2, A-7	0	0	55-90	50-85	40-75	30-60	50-65	25-40
	19-42	Indurated			0	0	0	0	0	0	---	NP
	42-60	Extremely cobbly sandy loam	GP-GM, GM	A-1	0	40-55	20-45	15-40	10-30	5-15	20-25	NP-5
Bilbo----------	0-2	Very gravelly sandy clay loam	GC	A-2, A-6	0	0-10	40-65	30-50	25-45	15-40	35-40	15-20
	2-18	Very gravelly clay, very gravelly sandy clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	45-65	35-50	30-45	20-40	40-55	20-35
	18-32	Extremely gravelly sandy clay, very gravelly sandy clay	GC	A-2	0	0-25	30-50	20-40	15-40	10-25	40-55	20-35
	32-60	Extremely gravelly loamy sand, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	30-60	15-50	10-40	5-20	15-25	NP-5
Cameek----------	0-2	Silt loam	CL	A-6	0	0	80-95	75-90	65-90	50-80	30-35	10-15
	2-8	Clay loam	CL	A-7	0	0	80-95	75-90	70-90	55-70	40-50	20-25
	8-19	Clay, gravelly clay, gravelly sandy clay	GC, SC, CH	A-2, A-7	0	0	55-90	50-85	40-75	30-60	50-65	25-40
	19-42	Indurated			0	0	0	0	0	0	---	NP
	42-60	Extremely cobbly sandy loam	GP-GM, GM	A-1	0	40-55	20-45	15-40	10-30	5-15	20-25	NP-5
280:												
Quarz----------	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper----------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
280 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
281:												
Quarz-----------	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cotant----------	0-3	Gravelly clay loam	GC, CL	A-6, A-7	0	0	60-85	50-70	40-65	35-60	35-45	15-20
	3-12	Clay	CH, CL	A-7	0	0	90-100	75-100	60-100	50-95	45-65	25-40
	12-16	Weathered bedrock			0	0	0	0	0	0	---	NP
282:												
Quarz-----------	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP
Quarz-----------	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
282 (con.):												
Arcia	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP
290:												
Gochea	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
Vadaho	0-6	Silt loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	6-18	Silt loam, loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	18-38	Indurated			0	0	0	0	0	0	---	NP
	38-60	Very gravelly sandy loam	GM	A-1	0	0	40-55	25-45	15-30	10-15	15-25	NP-5
291:												
Gochea	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
Simon	0-13	Silt loam	ML, CL-ML	A-4	0	0	80-100	75-100	65-80	50-65	20-30	NP-10
	13-43	Gravelly clay loam, clay loam	CL	A-6, A-7	0	0	65-95	60-90	55-85	50-70	35-45	15-20
	43-60	Gravelly loam	GC	A-6	0	0	55-75	50-70	45-65	35-50	25-35	10-15

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
300:												
Ola	0-6	Gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-10	55-80	50-75	25-50	15-30	15-25	NP-5
	6-29	Gravelly coarse sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0	0	55-80	50-75	25-50	15-30	15-25	NP-5
	29-35	Weathered bedrock			0	0	0	0	0	0	---	NP
	35-39	Unweathered bedrock			0	0	0	0	0	0	---	NP
Earcree	0-36	Gravelly coarse sandy loam	SM	A-1, A-2	0	0-15	75-95	65-75	35-45	20-35	20-25	NP-5
	36-60	Very gravelly loamy coarse sand, gravelly loamy coarse sand, coarse sandy loam	SM, GM	A-1, A-2	0	0-15	45-95	40-90	20-50	10-35	15-25	NP-5
Ola	0-6	Gravelly coarse sandy loam	SM, GM	A-1, A-2	0	0-10	55-80	50-75	25-50	15-30	15-25	NP-5
	6-29	Gravelly coarse sandy loam, gravelly sandy loam	SM, GM	A-1, A-2	0	0	55-80	50-75	25-50	15-30	15-25	NP-5
	29-35	Weathered bedrock			0	0	0	0	0	0	---	NP
	35-39	Unweathered bedrock			0	0	0	0	0	0	---	NP
310:												
Agort	0-5	Gravelly sandy loam	SM, GM	A-1, A-2	0	0-10	55-90	50-75	30-55	15-30	15-25	NP-5
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Xica	0-3	Sandy loam	SM	A-2	0	0	90-100	75-90	40-65	25-35	---	NP
	3-17	Gravelly sandy loam, gravelly sandy clay loam	SM, SC-SM	A-1, A-2	0	0	80-100	50-75	30-55	15-30	20-30	NP-10
	17-21	Weathered bedrock			0	0	0	0	0	0	---	NP
Xica	0-3	Gravelly loamy coarse sand	SM	A-1	0	0	80-90	50-75	25-50	10-20	---	NP
	3-17	Gravelly sandy loam, gravelly sandy clay loam	SM, SC-SM	A-1, A-2	0	0	80-100	50-75	30-55	15-30	20-30	NP-10
	17-21	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
320:												
Hussell---------	0-4	Coarse sandy loam	SM	A-1, A-2	0	0	85-100	75-95	40-55	20-35	0-14	NP
	4-16	Coarse sandy loam, gravelly coarse sandy loam	SM	A-1, A-2	0	0	70-100	60-90	35-55	20-30	15-25	NP-5
	16-56	Gravelly loamy coarse sand, loamy coarse sand	SM	A-1	0	0	70-100	60-90	30-45	15-20	0-14	NP
	56-65	Gravelly coarse sand, coarse sand	SP-SM	A-1	0	0	70-95	50-85	25-40	5-10	0-14	NP
Nevador---------	0-6	Loamy fine sand	SM	A-2, A-4	0	0	95-100	95-100	80-95	20-40	---	NP
	6-24	Clay loam, sandy clay loam, loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified gravelly fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
340:												
Xipe------------	0-3	Silt loam	CL	A-6	0	0	95-100	90-100	90-100	85-95	25-40	10-15
	3-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	90-100	85-95	25-45	10-20
	26-60	Stratified extremely gravelly coarse sand to loamy sand	GM, SM	A-1, A-2	0	0	55-80	50-75	30-55	10-25	0-14	NP
Valmy-----------	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	0-5	85-100	80-100	60-80	30-55	15-25	NP-5
	6-60	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-4, A-2, A-1	0	0-5	80-100	75-100	40-70	20-45	15-25	NP-5
Ocala-----------	0-8	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	30-40	5-15
	8-46	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	46-60	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	90-100	90-100	90-95	85-90	30-50	10-20
341:												
Xipe------------	0-3	Silt loam	CL	A-6	0	0	95-100	90-100	90-100	85-95	25-40	10-15
	3-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	90-100	85-95	25-45	10-20
	26-60	Stratified extremely gravelly coarse sand to loamy sand	GM, SM	A-1, A-2	0	0	55-80	50-75	30-55	15-30	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
341 (con.):												
Batan	0-4	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	30-35	NP-5
	4-60	Stratified silt loam to silty clay	CL	A-6	0	0	100	100	95-100	85-95	30-40	15-25
Devilsgait	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
380:												
Elhina	0-2	Gravelly loam	GC, CL	A-6	0	0-10	65-85	55-75	45-70	40-60	25-35	10-15
	2-5	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	70-90	60-85	50-70	30-40	10-20
	5-13	Clay loam, clay	CL, CH	A-7	0	0	80-100	75-90	70-90	60-85	40-55	20-30
	13-22	Extremely gravelly loam, very gravelly clay loam	GC	A-2	0	0	30-50	20-40	15-35	10-30	30-40	10-20
	22-27	Indurated			0	0	0	0	0	0	---	NP
	27-60	Stratified extremely gravelly sand to sandy loam	GP-GM, GM, SP-SM, SM	A-1	0	0-25	35-60	25-50	20-30	5-15	0-14	NP
400:												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
400 (con.):												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Chuska	0-3	Gravelly loam	CL, GC, SC	A-6	0	0-5	60-80	55-75	50-70	35-55	30-35	10-15
	3-12	Clay loam, gravelly clay loam, gravelly loam	CL	A-6	0	0	75-95	65-90	60-85	50-75	30-40	10-20
	12-22	Indurated			0	0	0	0	0	0	---	NP
	22-53	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand	GP-GM, GP	A-1	0	25-40	15-35	10-30	10-20	0-10	---	NP
	53-57	Unweathered bedrock			0	0	0	0	0	0	---	NP
401:												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
401 (con.):												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly sandy loam	SC-SM, GM-GC	A-2	0	0-10	45-65	25-50	15-35	10-20	20-25	5-10
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
403:												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly sandy loam	SC-SM, GM-GC	A-2	0	0-10	45-65	25-50	15-35	10-20	20-25	5-10
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
404:												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Oupico	0-4	Loam	SM, ML	A-4	0	0	95-100	95-100	85-90	45-75	20-25	NP-5
	4-25	Gravelly loam, loam, sandy loam	SM, ML	A-2, A-4	0	0	65-95	60-90	45-80	25-65	15-25	NP-5
	25-49	Indurated			0	0	0	0	0	0	---	NP
	49-62	Stratified sandy loam to very fine sandy loam	SM, ML	A-4	0	0	80-95	75-95	70-80	40-55	---	NP
405:												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
405 (con.):												
Zapa----------	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Hundraw---------	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
406:												
Zapa----------	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Pibler----------	0-3	Very gravelly loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	15-35	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
407:												
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Enko	0-3	Silt loam	CL-ML	A-4	0	0	95-100	85-100	75-100	50-70	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
410:												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
McIvey	0-13	Gravelly loam	GC, SC	A-6	0	0-10	60-85	50-75	45-70	35-50	30-40	10-15
	13-18	Very gravelly loam	GC	A-2, A-6	0	0-10	50-60	45-55	35-50	25-45	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	GC, SC, CL	A-7	0	0-10	55-85	45-75	40-70	35-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0	0-55	45-60	35-50	35-45	30-45	45-55	20-30

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
410 (con.):												
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
411:												
Coser-----------	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Coser-----------	0-13	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	13-18	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	18-23	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	23-62	Weathered bedrock			0	0	0	0	0	0	---	NP
McIvey----------	0-13	Gravelly loam	GC, SC	A-6	0	0-10	60-85	50-75	45-70	35-50	30-40	10-15
	13-18	Very gravelly loam	GC	A-2, A-6	0	0-10	50-60	45-55	35-50	25-45	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	GC, SC, CL	A-7	0	0-10	55-85	45-75	40-70	35-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0	0-55	45-60	35-50	35-45	30-45	45-55	20-30
412:												
Coser-----------	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
412 (con.):												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Lerrow	0-10	Gravelly loam	SC	A-6	0	0-10	70-80	60-75	55-65	40-50	30-35	10-15
	10-16	Clay loam, gravelly clay loam	CL, GC	A-7	0	0	55-90	50-85	45-80	35-65	40-50	20-25
	16-24	Cobbly clay, gravelly clay, clay	CH	A-7	0-5	10-25	75-95	65-85	60-75	55-70	50-60	25-35
	24-28	Weathered bedrock			0	0	0	0	0	0	---	NP
414:												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Forvic	0-13	Gravelly silty clay loam	CL	A-7, A-6	0	0	65-80	60-75	55-75	50-70	35-45	15-20
	13-20	Gravelly clay, clay	CH	A-7	0	0	65-95	60-90	55-90	50-85	50-70	30-50
	20-22	Very gravelly clay	GC	A-7, A-2	0	0	45-55	40-50	40-50	30-45	50-70	30-50
	22-30	Indurated			0	0	0	0	0	0	---	NP
	30-34	Unweathered bedrock			0	0	0	0	0	0	---	NP
Scalfar	0-3	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	35-50	35-45	25-35	25-35	5-15
	3-10	Very gravelly clay loam	GC	A-2, A-6	0	0-10	35-60	30-50	30-50	20-40	30-40	15-20
	10-63	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GM	A-1	0	0-20	20-40	15-30	5-20	5-10	15-25	NP-5
415:												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
415 (con.):												
Cleavage	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Pequop	0-10	Gravelly loam	GM-GC, CL-ML	A-4	0	5-10	60-80	55-75	40-70	35-55	20-30	5-10
	10-60	Very gravelly sandy clay loam, extremely gravelly sandy clay loam, very gravelly clay loam	GC	A-2	0	10-30	30-55	25-50	10-40	10-35	30-40	10-20
417:												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Fez	0-14	Loamy sand	SM	A-2, A-4	0	0	80-100	75-95	60-90	15-45	---	NP
	14-23	Loamy sand, loamy fine sand	SM	A-2, A-4, A-1	0	0-5	80-100	75-95	40-80	15-45	---	NP
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP
Quopant	0-5	Very gravelly sandy loam	GM	A-1	0	10-15	40-60	35-55	20-40	10-20	20-25	NP-5
	5-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	10-15	40-60	35-55	30-50	15-40	25-35	10-20
	14-18	Sandy loam	SM, SC-SM	A-2	0	0-10	100	100	35-60	25-35	20-30	NP-10
	18-28	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
418:												
Rodie	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5
Rubble Land	0-60	Fragmental material	GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
419:												
Rodie	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
419 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Pequop----------	0-10	Gravelly loam	GM-GC, CL-ML	A-4	0	5-10	60-80	55-75	40-70	35-55	20-30	5-10
	10-60	Very gravelly sandy clay loam, extremely gravelly sandy clay loam, very gravelly clay loam	GC	A-2	0	10-30	30-55	25-50	10-40	10-35	30-40	10-20
420:												
Rodie-----------	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
420 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Agassiz---------	0-2	Very gravelly loam	GC	A-2, A-6	0	10-25	35-55	30-50	25-45	20-40	25-35	10-15
	2-11	Extremely cobbly loam, very cobbly loam	GC	A-2, A-6	0-5	45-65	25-60	20-55	15-45	10-40	25-35	10-15
	11-21	Unweathered bedrock			0	0	0	0	0	0	---	NP
421:												
Rodie-----------	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
421 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Keman-----------	0-38	Gravelly loam	GM-GC, SC-SM	A-4	0	0-10	25-80	20-75	20-70	15-50	20-25	5-10
	38-60	Very gravelly loam, extremely gravelly clay loam	GC	A-2	0-5	0-25	25-50	15-40	15-35	10-30	30-40	15-25
422:												
Rodie-----------	0-14	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	30-45	25-40	20-35	25-35	5-15
	14-30	Very gravelly loam, very gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	0-10	30-45	20-35	10-30	5-25	25-35	5-15
	30-39	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GM-GC, GP-GC	A-2	0	10-30	30-45	20-35	10-30	5-25	25-35	5-15
	39-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam, very gravelly sandy loam	GM, GP-GM, GP	A-1	0	5-20	30-45	20-35	5-25	0-15	20-25	NP-5
Quarz-----------	0-3	Very gravelly loam	GC	A-2	0	0-15	40-55	35-50	30-45	20-35	25-35	10-15
	3-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	30-55	25-50	20-45	15-40	45-60	20-30
	23-27	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
422 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
423:												
Quopant---------	0-5	Very gravelly sandy loam	GM	A-1	0	10-15	40-60	35-55	20-40	10-20	20-25	NP-5
	5-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	10-15	40-60	35-55	30-50	15-40	25-35	10-20
	14-18	Sandy loam	SM, SC-SM	A-2	0	0-10	100	100	35-60	25-35	20-30	NP-10
	18-28	Weathered bedrock			0	0	0	0	0	0	---	NP
Coser-----------	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Lerrow----------	0-10	Gravelly loam	SC	A-6	0	0-10	70-80	60-75	55-65	40-50	30-35	10-15
	10-16	Clay loam, gravelly clay loam	CL, GC	A-7	0	0	55-90	50-85	45-80	35-65	40-50	20-25
	16-24	Cobbly clay, gravelly clay, clay	CH	A-7	0-5	10-25	75-95	65-85	60-75	55-70	50-60	25-35
	24-28	Weathered bedrock			0	0	0	0	0	0	---	NP
430:												
Ocala-----------	0-8	Silt loam	ML, CL	A-4, A-6	0	0	100	100	90-100	70-80	30-40	5-15
	8-46	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	46-60	Stratified gravelly very fine sandy loam to silt loam	GM, SM, ML	A-4	0	0	55-90	55-85	50-75	35-55	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
430 (con.):												
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	75-90	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	90-100	80-95	25-35	5-15
431:												
Ocala	0-8	Silt loam	ML, CL	A-4, A-6	0	0	100	100	90-100	70-80	30-40	5-15
	8-46	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	46-60	Stratified gravelly very fine sandy loam to silt loam	GM, SM, ML	A-4	0	0	55-90	55-85	50-75	35-55	---	NP
Batan	0-9	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	30-35	NP-5
	9-61	Stratified silt loam to silty clay	CL	A-6	0	0	100	100	95-100	85-95	30-40	15-25
Devilsgait	0-14	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-95	65-80	20-30	NP-10
	14-62	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
432:												
Ocala	0-8	Silty clay loam	CL, ML	A-7	0	0	100	100	95-100	85-95	40-50	15-20
	8-46	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	46-60	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	90-100	90-100	90-95	85-90	30-50	10-20
Ixian	0-12	Silty clay loam	CL, CH	A-7	0	0	100	100	95-100	90-95	40-55	20-30
	12-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-50	15-25
	42-63	Stratified loamy fine sand to silty clay	CL, CH	A-7	0	0	100	100	95-100	85-95	40-60	20-30
462:												
Graley	0-9	Extremely gravelly loam	GC	A-2	0	0-5	25-35	15-25	10-25	10-20	25-35	10-15
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
462 (con.):												
Chen	0-6	Very gravelly loam	GC	A-2	0	0-15	50-65	35-50	30-45	25-35	30-35	10-15
	6-12	Very gravelly clay, extremely gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	0-45	35-50	25-45	25-45	20-40	50-60	25-35
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP
470:												
Rock Outcrop.												
Chen	0-6	Very gravelly loam	GC	A-2	0	0-15	50-65	35-50	30-45	25-35	30-35	10-15
	6-12	Very gravelly clay, extremely gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	0-45	35-50	25-45	25-45	20-40	50-60	25-35
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Graley	0-9	Extremely gravelly loam	GC	A-2	0	0-5	25-35	15-25	10-25	10-20	25-35	10-15
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
472:												
Chen	0-6	Very gravelly loam	GC	A-2	0	0-15	50-65	35-50	30-45	25-35	30-35	10-15
	6-12	Very gravelly clay, extremely gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	0-45	35-50	25-45	25-45	20-40	50-60	25-35
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
472 (con.):												
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
473:												
Chen	0-6	Extremely cobbly loam	GC, GM-GC	A-2	5-15	35-60	40-65	30-60	25-45	20-35	25-35	5-15
	6-12	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2	0-15	5-50	45-55	30-50	25-40	25-35	55-65	35-40
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
474:												
Chen	0-6	Very gravelly loam	GC	A-2	0	0-15	50-65	35-50	30-45	25-35	30-35	10-15
	6-12	Very gravelly clay, extremely gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	0-45	35-50	25-45	25-45	20-40	50-60	25-35
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
474 (con.):												
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Vitale----------	0-5	Very gravelly loam	GM-GC, GC	A-2, A-1	0	10-15	35-60	30-55	25-45	20-35	25-35	5-15
	5-21	Very gravelly clay loam, very cobbly clay loam, very cobbly loam	GC	A-6, A-2, A-7	0-15	10-30	35-65	30-60	30-55	25-45	35-45	15-25
	21-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
480:												
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
Kelk------------	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
481:												
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
Batan-----------	0-4	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	30-35	NP-5
	4-60	Stratified silt loam to silty clay	CL	A-6	0	0	100	100	95-100	85-95	30-40	15-25
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
482:												
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
483:												
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
Valmy----------	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	0-5	85-100	80-100	60-80	30-55	15-25	NP-5
	6-60	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-4, A-2, A-1	0	0-5	80-100	75-100	40-70	20-45	15-25	NP-5
490:												
Loncan----------	0-16	Very gravelly loam	GC	A-2	0	10-15	40-60	30-45	25-40	20-35	30-35	10-15
	16-37	Very gravelly loam, extremely cobbly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-55	35-60	30-50	25-40	20-35	30-35	10-15
	37-41	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine----------	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
520:												
Halleck---------	0-9	Silt loam	ML	A-4	0	0	100	100	90-100	75-90	30-35	5-10
	9-36	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	36-61	Stratified loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	75-95	30-50	10-20
521:												
Halleck---------	0-12	Silt loam	ML	A-4	0	0	100	100	90-100	75-90	30-35	5-10
	12-52	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	52-61	Very gravelly clay loam, very gravelly loam	GC	A-2	0	0	45-55	30-45	25-40	20-35	30-40	10-20

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
521 (con.):												
Halleck---------	0-9	Silt loam	ML	A-4	0	0	100	100	90-100	75-90	30-35	5-10
	9-36	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	36-61	Stratified loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	75-95	30-50	10-20
530:												
Ekim----------	0-9	Very gravelly loam	GC	A-2	0	0-10	45-60	35-50	30-45	25-35	30-35	10-15
	9-25	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-50	25-40	30-40	10-15
	25-33	Unweathered bedrock			0	0	0	0	0	0	---	NP
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Loncan----------	0-16	Very gravelly loam	GC	A-2	0	10-15	40-60	30-45	25-40	20-35	30-35	10-15
	16-37	Very gravelly loam, extremely cobbly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-55	35-60	30-50	25-40	20-35	30-35	10-15
	37-41	Unweathered bedrock			0	0	0	0	0	0	---	NP
540:												
Sumine----------	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
540 (con.):												
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
541:												
Sumine----------	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Bullump---------	0-20	Very gravelly loam	GC, SC	A-2	0	0-10	45-70	35-50	30-45	25-35	25-35	10-15
	20-47	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2, A-6, A-7	0	0-15	40-65	30-50	25-45	15-40	35-45	15-20
	47-51	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
542:												
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hackwood	0-8	Gravelly loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	8-30	Gravelly loam, gravelly silt loam	GM-GC, SC-SM, CL-ML, CL	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	30-61	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
543:												
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Pernty	0-3	Very stony loam	GC	A-2	5-25	5-10	50-60	45-55	35-45	25-35	30-35	10-15
	3-16	Very cobbly clay loam, very gravelly clay loam, very gravelly loam	GC	A-6, A-7	0	10-35	50-60	45-55	40-50	35-45	35-45	15-20
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
543 (con.):												
Tusel----------	0-20	Very gravelly fine sandy loam	GM	A-2	0	0-15	50-60	40-50	35-45	25-35	25-35	NP-10
	20-42	Very gravelly clay loam, extremely gravelly sandy clay loam, extremely gravelly clay loam	GC	A-2	0	15-45	30-50	25-40	20-35	15-30	30-40	10-20
	42-52	Unweathered bedrock			0	0	0	0	0	0	---	NP
550:												
Bullump---------	0-7	Very stony loam	GC, SC	A-6, A-2	5-20	20-40	55-75	45-65	40-60	30-50	25-35	10-15
	7-23	Very gravelly loam	GC, SC	A-2	0	0-10	45-70	35-50	30-45	25-35	25-35	10-15
	23-54	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2, A-6, A-7	0	0-15	40-65	30-50	25-45	15-40	35-45	15-20
	54-64	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine----------	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
560:												
Amene----------	0-8	Very gravelly silt loam	GC	A-2, A-6	0	0	40-55	35-50	30-45	25-45	30-35	10-15
	8-16	Very gravelly silt loam, very gravelly loam	GC	A-2, A-6	0	0-25	35-60	30-45	25-45	20-40	30-35	10-15
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
560 (con.):												
Belsac	0-20	Very gravelly loam	GM-GC	A-2	0	0-15	35-55	30-50	25-45	20-35	25-30	5-10
	20-37	Very gravelly loam	GM-GC	A-2	0	0-15	35-55	30-50	25-45	20-35	25-30	5-10
	37-41	Weathered bedrock			0	0	0	0	0	0	---	NP
Onkey	0-8	Very gravelly silty clay loam	GM	A-2, A-7	0	5-30	40-60	30-50	30-50	25-45	40-45	10-15
	8-15	Extremely cobbly silty clay loam, very cobbly silty clay loam	GM, SM	A-2, A-6, A-7	0-10	35-60	55-75	20-50	20-50	15-45	35-45	10-15
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
561:												
Amend	0-8	Very gravelly silt loam	GC	A-2, A-6	0	0	40-55	35-50	30-45	25-45	30-35	10-15
	8-16	Very gravelly silt loam, very gravelly loam	GC	A-2, A-6	0	0-25	35-60	30-45	25-45	20-40	30-35	10-15
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
Ekim	0-9	Very gravelly loam	GC	A-2	0	0-10	45-60	35-50	30-45	25-35	30-35	10-15
	9-25	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-50	25-40	30-40	10-15
	25-33	Unweathered bedrock			0	0	0	0	0	0	---	NP
Agassiz	0-2	Very gravelly loam	GC	A-2, A-6	0	10-25	35-55	30-50	25-45	20-40	25-35	10-15
	2-11	Extremely cobbly loam, very cobbly loam	GC	A-2, A-6	0-5	45-65	25-60	20-55	15-45	10-40	25-35	10-15
	11-21	Unweathered bedrock			0	0	0	0	0	0	---	NP
570:												
Tusel	0-11	Very cobbly loam	GM, SM, GM-GC, SC-SM	A-4, A-2	0-5	45-65	50-80	45-75	40-65	25-40	20-30	NP-10
	11-45	Extremely gravelly sandy clay loam, extremely gravelly clay loam, very gravelly clay loam	GC	A-2	0	15-45	30-50	25-40	20-35	15-30	30-40	10-20
	45-49	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
570 (con.):												
Belsac Variant--	0-9	Very stony silt loam	CL-ML, GM-GC, ML, GM	A-4, A-2	5-25	15-50	45-85	35-75	35-70	30-65	25-35	5-10
	9-41	Extremely cobbly silt loam, extremely cobbly loam, very stony silt loam	CL-ML, GM-GC, ML, GM	A-2, A-4	5-15	40-70	45-85	35-75	35-70	30-65	25-35	5-10
	41-61	Extremely cobbly loam, extremely stony loam	SC-SM, GM-GC, SM, GM	A-2, A-4	5-40	15-70	35-75	25-65	25-60	20-45	25-35	5-10
580:												
Kelk----------	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
Sonoma----------	0-8	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-35	10-15
	8-60	Stratified silt loam to silty clay loam	ML, CL	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
582:												
Kelk----------	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20
Welch----------	0-14	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	70-90	35-40	15-20
	14-62	Stratified sandy loam to silty clay loam	CL	A-6	0	0	80-100	75-100	65-90	50-70	30-40	10-20
585:												
Valmy----------	0-3	Loam	ML	A-4	0	0	80-95	75-90	70-80	50-65	15-25	NP-5
	3-43	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-1, A-2, A-4	0	0-5	80-95	75-90	40-70	20-45	15-25	NP-5
	43-66	Gravelly sand, very gravelly sand	SP-SM, SM, GP-GM, GM	A-1	0	0-10	40-75	30-70	20-45	5-15	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
585 (con.):												
Luap	0-10	Very gravelly loam	GM	A-2, A-4, A-1	0	0	40-60	30-50	25-50	20-40	20-25	NP-5
	10-26	Very gravelly loam, very gravelly fine sandy loam	GM	A-1, A-2	0	0	35-50	25-40	20-35	10-30	20-25	NP-5
	26-31	Cemented			0	0	0	0	0	0	---	NP
	31-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP-GM	A-1	0	0-10	30-50	20-40	10-30	5-10	0-14	NP
590:												
Valmy	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	0-5	85-100	80-100	60-80	30-55	15-25	NP-5
	6-60	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-4, A-2, A-1	0	0-5	80-100	75-100	40-70	20-45	15-25	NP-5
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
610:												
Grina	0-4	Silty clay loam	CL, ML	A-6	0	0	90-100	80-100	75-95	70-90	35-40	10-15
	4-14	Silty clay loam, silt loam, loam	CL	A-6	0	0	90-100	80-100	75-95	60-90	30-40	10-15
	14-18	Weathered bedrock			0	0	0	0	0	0	---	NP
Gochea	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
620:												
Vadaho	0-6	Silt loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	6-18	Silt loam, loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	18-38	Indurated			0	0	0	0	0	0	---	NP
	38-60	Very gravelly sandy loam	GM	A-1	0	0	40-55	25-45	15-30	10-15	15-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
620 (con.):												
Vadaho	0-6	Silt loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	6-18	Silt loam, loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	18-38	Indurated			0	0	0	0	0	0	---	NP
	38-60	Very gravelly sandy loam	GM	A-1	0	0	40-55	25-45	15-30	10-15	15-25	NP-5
621:												
Vadaho	0-6	Silt loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	6-18	Silt loam, loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	18-38	Indurated			0	0	0	0	0	0	---	NP
	38-60	Very gravelly sandy loam	GM	A-1	0	0	40-55	25-45	15-30	10-15	15-25	NP-5
Vadaho	0-6	Silt loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	6-18	Silt loam, loam	CL	A-6	0	0	95-100	75-90	65-90	50-80	30-35	10-15
	18-38	Indurated			0	0	0	0	0	0	---	NP
	38-60	Very gravelly sandy loam	GM	A-1	0	0	40-55	25-45	15-30	10-15	15-25	NP-5
Stampede	0-5	Gravelly loam	CL	A-6	0	0	70-80	65-75	60-70	50-65	25-35	10-15
	5-27	Clay, silty clay	CH	A-7	0	0-10	90-100	85-95	80-90	70-85	50-60	30-40
	27-60	Indurated			0	0	0	0	0	0	---	NP
631:												
Pernty	0-3	Very gravelly loam	GC	A-2	0	0-10	40-55	35-50	25-35	20-30	30-35	10-15
	3-16	Very cobbly clay loam, very gravelly clay loam, very gravelly loam	GC	A-6, A-7	0-5	10-30	50-60	45-55	40-50	35-45	35-45	15-20
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
McIvey	0-13	Gravelly loam	GC, SC	A-6	0	0-10	60-85	50-75	45-70	35-50	30-40	10-15
	13-18	Very gravelly loam	GC	A-2, A-6	0	0-10	50-60	45-55	35-50	25-45	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	GC, SC, CL	A-7	0	0-10	55-85	45-75	40-70	35-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0	0-55	45-60	35-50	35-45	30-45	45-55	20-30
Gollaher	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
632:												
Pernty----------	0-3	Very gravelly loam	GC	A-2	0	0-10	40-55	35-50	25-35	20-30	30-35	10-15
	3-16	Very cobbly clay loam, very gravelly clay loam, very gravelly loam	GC	A-6, A-7	0-5	10-30	50-60	45-55	40-50	35-45	35-45	15-20
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine----------	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
633:												
Rock Outcrop.												
Pernty----------	0-3	Very gravelly loam	GC	A-2	0	0-10	40-55	35-50	25-35	20-30	30-35	10-15
	3-16	Very cobbly clay loam, very gravelly clay loam, very gravelly loam	GC	A-6, A-7	0-5	10-30	50-60	45-55	40-50	35-45	35-45	15-20
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
633 (con.):												
Tweener---------	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
651:												
Scalfar---------	0-2	Very gravelly loam	GC, GM-GC	A-2	0	10-25	40-55	35-50	35-45	25-35	25-35	5-15
	2-11	Very gravelly clay loam	GC	A-2, A-6	0	10-30	35-60	30-50	30-50	20-40	30-40	15-20
	11-25	Extremely cobbly loam, very cobbly loam	GM-GC	A-2	0	30-50	30-50	25-40	20-35	15-30	20-30	5-10
	25-60	Extremely cobbly sandy loam, extremely cobbly coarse sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0	35-55	25-45	20-35	10-25	5-15	15-25	NP-5
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hackwood--------	0-8	Gravelly loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	8-30	Gravelly loam, gravelly silt loam	GM-GC, SC-SM, CL-ML, CL	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	30-61	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 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
652:												
Scalfar---------	0-2	Very gravelly loam	GC, GM-GC	A-2	0	10-25	40-55	35-50	35-45	25-35	25-35	5-15
	2-11	Very gravelly clay loam	GC	A-2, A-6	0	10-30	35-60	30-50	30-50	20-40	30-40	15-20
	11-25	Extremely cobbly loam, very cobbly loam	GM-GC	A-2	0	30-50	30-50	25-40	20-35	15-30	20-30	5-10
	25-60	Extremely cobbly sandy loam, extremely cobbly coarse sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0	35-55	25-45	20-35	10-25	5-15	15-25	NP-5
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Quopant---------	0-5	Very gravelly sandy loam	GM	A-1	0	10-15	40-60	35-55	20-40	10-20	20-25	NP-5
	5-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	10-15	40-60	35-55	30-50	15-40	25-35	10-20
	14-18	Sandy loam	SM, SC-SM	A-2	0	0-10	100	100	35-60	25-35	20-30	NP-10
	18-22	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
655:												
Scalfar---------	0-2	Very gravelly loam	GC, GM-GC	A-2	0	10-25	40-55	35-50	35-45	25-35	25-35	5-15
	2-11	Very gravelly clay loam	GC	A-2, A-6	0	10-30	35-60	30-50	30-50	20-40	30-40	15-20
	11-25	Extremely cobbly loam, very cobbly loam	GM-GC	A-2	0	30-50	30-50	25-40	20-35	15-30	20-30	5-10
	25-60	Extremely cobbly sandy loam, extremely cobbly coarse sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0	35-55	25-45	20-35	10-25	5-15	15-25	NP-5
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
656:												
Scalfar---------	0-3	Very gravelly loam	GC, GM-GC	A-2	0	0	40-55	35-50	35-45	25-35	25-35	5-15
	3-10	Very gravelly clay loam	GC	A-2, A-6	0	0-10	35-60	30-50	30-50	20-40	30-40	15-20
	10-63	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GM	A-1	0	0-20	20-40	15-30	5-20	5-10	15-25	NP-5
Fenelon---------	0-6	Gravelly silt loam	CL, GC	A-6	0	0	60-85	50-75	45-70	40-65	30-35	10-15
	6-37	Gravelly clay loam, gravelly silty clay loam	CL, GC	A-6, A-7	0	0-15	60-85	50-75	45-75	45-70	35-45	15-20
	37-47	Weathered bedrock			0	0	0	0	0	0	---	NP
Booford---------	0-9	Gravelly clay loam	SC, CL	A-6	0	0	75-85	60-75	55-70	40-60	35-40	15-20
	9-24	Gravelly clay	SC, CL, CH	A-7	0	0-10	75-85	60-75	40-70	40-65	45-65	30-45
	24-34	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
660:												
Hooplite--------	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hooplite--------	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
661:												
Hooplite--------	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hooplite--------	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
662:												
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
664:												
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
664 (con.):												
Kram	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
665:												
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
666:												
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hooplite	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
666 (con.):												
Kleckner--------	0-7	Gravelly loam	CL-ML, ML	A-4	0	10-25	65-90	60-85	55-80	50-75	25-35	5-10
	7-11	Very gravelly clay, very cobbly clay loam, very cobbly clay	GC	A-2, A-7	0	10-45	45-70	30-60	30-55	25-45	40-55	25-35
	11-42	Very gravelly clay loam, very gravelly clay, very cobbly clay	GC, SC	A-2, A-7	0	0-45	45-90	25-60	25-55	20-50	40-55	25-35
	42-60	Loam, gravelly loam	GM-GC, GM, CL-ML, ML	A-4	0	0-5	65-90	60-85	50-75	40-60	20-30	NP-10
670:												
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Kleckner--------	0-7	Gravelly loam	CL-ML, ML	A-4	0	10-25	65-90	60-85	55-80	50-75	25-35	5-10
	7-11	Very gravelly clay, very cobbly clay loam, very cobbly clay	GC	A-2, A-7	0	10-45	45-70	30-60	30-55	25-45	40-55	25-35
	11-42	Very gravelly clay loam, very gravelly clay, very cobbly clay	GC, SC	A-2, A-7	0	0-45	45-90	25-60	25-55	20-50	40-55	25-35
	42-60	Loam, gravelly loam	GM-GC, GM, CL-ML, ML	A-4	0	0-5	65-90	60-85	50-75	40-60	20-30	NP-10
Anowell---------	0-2	Gravelly loam	GC, CL	A-6	0	0	65-85	55-75	50-70	35-60	25-35	10-15
	2-6	Gravelly clay loam, clay loam, gravelly loam	GC, CL	A-6	0	0	65-90	55-85	50-80	35-75	30-40	15-20
	6-10	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
672:												
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Cameek----------	0-2	Silt loam	CL	A-6	0	0	80-95	75-90	65-90	50-80	30-35	10-15
	2-8	Clay loam	CL	A-7	0	0	80-95	75-90	70-90	55-70	40-50	20-25
	8-19	Clay, gravelly clay, gravelly sandy clay	GC, SC, CH	A-2, A-7	0	0	55-90	50-85	40-75	30-60	50-65	25-40
	19-42	Indurated			0	0	0	0	0	0	---	NP
	42-60	Extremely cobbly sandy loam	GP-GM, GM	A-1	0	40-55	20-45	15-40	10-30	5-15	20-25	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
673:												
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Gance----------	0-5	Very gravelly loam	GC	A-2, A-6	0	0-25	45-70	30-50	25-45	20-40	30-35	10-15
	5-20	Very gravelly clay, very gravelly sandy clay, extremely gravelly clay	GC	A-2, A-7	0-5	0-30	40-70	20-55	15-55	10-40	40-60	20-35
	20-60	Extremely gravelly sandy loam, very cobbly sandy loam, extremely gravelly loam	GM, GM-GC, GP-GM	A-2, A-4, A-1	0-5	15-55	25-60	20-55	10-50	5-40	20-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
674:												
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Zapa----------	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
678:												
Izar----------	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Izar----------	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
679:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-30	Indurated			0	0	0	0	0	0	---	NP
	30-60	Cemented			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
680:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Holborn	0-3	Gravelly loam	GC, CL	A-6	0	0-10	55-80	50-75	45-65	35-55	25-35	10-15
	3-7	Gravelly clay loam, gravelly loam	GC, CL	A-6	0	0-10	60-80	50-75	45-70	35-60	25-35	10-15
	7-17	Weathered bedrock			0	0	0	0	0	0	---	NP
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
681:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Loomis	0-1	Very gravelly loam	GM-GC, GC	A-2	0	0-10	50-60	35-45	25-40	20-30	25-35	5-15
	1-9	Very gravelly clay, very gravelly clay loam	GC	A-2	0	0-5	55-65	35-45	30-40	25-35	45-60	20-30
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Vanwyper	0-10	Very gravelly loam	GC	A-2	0	0-10	35-55	30-50	25-45	20-35	25-35	10-15
	10-25	Very cobbly clay, very cobbly clay loam	GC, CL, CH	A-7	0-10	25-55	55-75	50-65	45-60	40-55	40-60	20-40
	25-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
682:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
682 (con.):												
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
683:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Holborn	0-3	Gravelly loam	GC, CL	A-6	0	0-10	55-80	50-75	45-65	35-55	25-35	10-15
	3-7	Gravelly clay loam, gravelly loam	GC, CL	A-6	0	0-10	60-80	50-75	45-70	35-60	25-35	10-15
	7-17	Weathered bedrock			0	0	0	0	0	0	---	NP
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
684:												
Rock Outcrop.												
Izar	0-3	Very stony loam	GC	A-2, A-6	5-25	10-20	50-65	45-60	30-55	25-40	25-35	10-15
	3-13	Very gravelly loam, extremely gravelly loam	GC	A-2	0-10	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	13-17	Unweathered bedrock			0	0	0	0	0	0	---	NP
685:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
685 (con.):												
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
Yuko	0-4	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	25-45	15-35	20-30	NP-10
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP
686:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Vanwyper	0-10	Very gravelly loam	GC	A-2	0	0-10	35-55	30-50	25-45	20-35	25-35	10-15
	10-25	Very cobbly clay, very cobbly clay loam	GC, CL, CH	A-7	0-10	25-55	55-75	50-65	45-60	40-55	40-60	20-40
	25-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
687:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Wiffo	0-8	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	30-45	20-35	15-25	NP-10
	8-27	Very gravelly sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0-15	0-30	20-40	15-35	10-25	5-15	15-20	NP-5
	27-60	Stratified extremely gravelly sandy loam to very gravelly coarse sand	GP-GM, GM	A-1	0-10	0-30	20-40	15-35	10-20	5-15	15-20	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
688:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Yuko	0-4	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	25-45	15-35	20-30	NP-10
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP
689:												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
690:												
Oupico----------	0-4	Sandy loam	SM	A-2, A-4	0	0	95-100	95-100	60-70	30-40	15-25	NP-5
	4-25	Gravelly loam, loam, sandy loam	SM, ML	A-2, A-4	0	0	65-95	60-90	45-80	25-65	15-25	NP-5
	25-49	Indurated			0	0	0	0	0	0	---	NP
	49-62	Stratified sandy loam to very fine sandy loam	SM, ML	A-4	0	0	80-95	75-95	70-80	40-55	---	NP
Oupico----------	0-4	Sandy loam	SM	A-2, A-4	0	0	95-100	95-100	60-70	30-40	15-25	NP-5
	4-25	Gravelly loam, loam, sandy loam	SM, ML	A-2, A-4	0	0	65-95	60-90	45-80	25-65	15-25	NP-5
	25-49	Indurated			0	0	0	0	0	0	---	NP
	49-62	Stratified sandy loam to very fine sandy loam	SM, ML	A-4	0	0	80-95	75-95	70-80	40-55	---	NP
Peeko----------	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-25	Indurated			0	0	0	0	0	0	---	NP
691:												
Oupico----------	0-4	Loam	SM, ML	A-4	0	0	95-100	95-100	85-90	45-75	20-25	NP-5
	4-25	Gravelly loam, loam, sandy loam	SM, ML	A-2, A-4	0	0	65-95	60-90	45-80	25-65	15-25	NP-5
	25-49	Indurated			0	0	0	0	0	0	---	NP
	49-62	Stratified sandy loam to very fine sandy loam	SM, ML	A-4	0	0	80-95	75-95	70-80	40-55	---	NP
Enko----------	0-14	Loam	CL-ML, ML	A-4	0	0	90-100	85-100	75-95	50-75	15-25	NP-10
	14-53	Loam, fine sandy loam, sandy loam	CL-ML, SC-SM, ML, SM	A-4	0	0	90-100	85-100	50-90	35-70	15-25	NP-10
	53-63	Very gravelly loamy sand, very gravelly sand, extremely gravelly sand	GP-GM, GP	A-1	0-5	0-20	30-55	25-45	15-25	0-10	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
700:												
Xica----------	0-3	Sandy loam	SM	A-2	0	0	90-100	75-90	40-65	25-35	---	NP
	3-17	Gravelly sandy loam, gravelly sandy clay loam	SM, SC-SM	A-1, A-2	0	0	80-100	50-75	30-55	15-30	20-30	NP-10
	17-21	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
701:												
Xica----------	0-3	Sandy loam	SM	A-2	0	0	90-100	75-90	40-65	25-35	---	NP
	3-17	Gravelly sandy loam, gravelly sandy clay loam	SM, SC-SM	A-1, A-2	0	0	80-100	50-75	30-55	15-30	20-30	NP-10
	17-21	Weathered bedrock			0	0	0	0	0	0	---	NP
Xica----------	0-3	Sandy loam	SM	A-2	0	0	90-100	75-90	40-65	25-35	---	NP
	3-17	Gravelly sandy loam, gravelly sandy clay loam	SM, SC-SM	A-1, A-2	0	0	80-100	50-75	30-55	15-30	20-30	NP-10
	17-21	Weathered bedrock			0	0	0	0	0	0	---	NP
Agort----------	0-5	Gravelly sandy loam	SM, GM	A-1, A-2	0	0-10	55-90	50-75	30-55	15-30	15-25	NP-5
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
730:												
Geysen----------	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	75-85	30-35	NP-5
	4-12	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	85-95	70-85	30-40	15-25
	12-60	Loam, very fine sandy loam, fine sandy loam	SC-SM, SC, CL-ML, CL	A-4	0	0	85-95	75-90	60-75	45-60	25-30	5-10
Welch----------	0-14	Silty clay loam	CL	A-7	0	0	80-100	75-100	70-90	60-85	40-50	15-25
	14-62	Stratified sandy loam to silty clay loam	CL	A-6, A-7	0	0	80-100	75-100	65-90	50-70	35-45	15-20
Batan----------	0-4	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	30-35	NP-5
	4-60	Stratified silt loam to silty clay	CL	A-6	0	0	100	100	95-100	85-95	30-40	15-25
731:												
Geysen----------	0-4	Silt loam	ML	A-4	0	0	95-100	90-100	85-95	75-85	30-35	NP-5
	4-12	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	85-95	70-85	30-40	15-25
	12-60	Loam, very fine sandy loam, fine sandy loam	SC-SM, SC, CL-ML, CL	A-4	0	0	85-95	75-90	60-75	45-60	25-30	5-10
Crooked Creek---	0-18	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	80-90	35-45	15-20
	18-61	Silty clay, clay	CL, CH	A-7	0	0	90-100	80-100	70-90	65-85	40-55	20-25
Batan----------	0-4	Silt loam	ML	A-4	0	0	100	100	95-100	85-95	30-35	NP-5
	4-60	Stratified silt loam to silty clay	CL	A-6	0	0	100	100	95-100	85-95	30-40	15-25
742:												
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
742 (con.):												
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Vitale----------	0-5	Very gravelly loam	GM-GC, GC	A-2, A-1	0	10-15	35-60	30-55	25-45	20-35	25-35	5-15
	5-21	Very gravelly clay loam, very cobbly clay loam, very cobbly loam	GC	A-6, A-2, A-7	0-15	10-30	35-65	30-60	30-55	25-45	35-45	15-25
	21-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
743:												
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
744:												
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
744 (con.):												
Graley----------	0-9	Extremely gravelly loam	GC	A-2	0	0-5	25-35	15-25	10-25	10-20	25-35	10-15
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
745:												
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Graley----------	0-9	Very gravelly loam	GM	A-1, A-2	0	0-5	30-50	25-45	20-40	15-30	20-25	NP-5
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
746:												
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hackwood--------	0-8	Gravelly loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	8-30	Gravelly loam, gravelly silt loam	GM-GC, SC-SM, CL-ML, CL	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	30-61	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
Graley----------	0-9	Extremely gravelly loam	GC	A-2	0	0-5	25-35	15-25	10-25	10-20	25-35	10-15
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
747:												
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Keman-----------	0-38	Gravelly loam	GM-GC, SC-SM	A-4	0	0-10	25-80	20-75	20-70	15-50	20-25	5-10
	38-60	Very gravelly loam, extremely gravelly clay loam	GC	A-2	0-5	0-25	25-50	15-40	15-35	10-30	30-40	15-25
Hogmalat--------	0-3	Very gravelly loam	GM-GC	A-2	0	0-10	45-55	25-50	20-50	15-35	20-30	5-10
	3-10	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0	45-55	35-50	30-50	25-40	30-40	15-25
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
748:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Quopant	0-5	Very gravelly sandy loam	GM	A-1	0	10-15	40-60	35-55	20-40	10-20	20-25	NP-5
	5-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	10-15	40-60	35-55	30-50	15-40	25-35	10-20
	14-18	Sandy loam	SM, SC-SM	A-2	0	0-10	100	100	35-60	25-35	20-30	NP-10
	18-28	Weathered bedrock			0	0	0	0	0	0	---	NP
749:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
749 (con.):												
Snotown	0-7	Very gravelly coarse sandy loam	GP-GM, GM	A-1	0	0	35-55	25-45	10-25	5-15	20-25	NP-5
	7-30	Extremely gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	35-55	20-45	10-30	5-20	20-25	NP-5
	30-33	Unweathered bedrock			0	0	0	0	0	0	---	NP
Chen	0-6	Very gravelly loam	GC	A-2	0	0-15	50-65	35-50	30-45	25-35	30-35	10-15
	6-12	Very gravelly clay, extremely gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	0-45	35-50	25-45	25-45	20-40	50-60	25-35
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
750:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Bullump	0-20	Very gravelly loam	GC, SC	A-2	0	0-10	45-70	35-50	30-45	25-35	25-35	10-15
	20-47	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2, A-6, A-7	0	0-15	40-65	30-50	25-45	15-40	35-45	15-20
	47-51	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hackwood	0-8	Gravelly loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	8-30	Gravelly loam, gravelly silt loam	GM-GC, SC-SM, CL-ML, CL	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	30-61	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 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
751:												
Cleavage	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
752:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
752 (con.):												
Lerrow----------	0-10	Gravelly loam	SC	A-6	0	0-10	70-80	60-75	55-65	40-50	30-35	10-15
	10-16	Clay loam, gravelly clay loam	CL, GC	A-7	0	0	55-90	50-85	45-80	35-65	40-50	20-25
	16-24	Cobbly clay, gravelly clay, clay	CH	A-7	0-5	10-25	75-95	65-85	60-75	55-70	50-60	25-35
	24-28	Weathered bedrock			0	0	0	0	0	0	---	NP
753:												
Rock Outcrop.												
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
754:												
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
754 (con.):												
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
755:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
756:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
756 (con.):												
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Pernty	0-3	Very gravelly loam	GC	A-2	0	0-10	40-55	35-50	25-35	20-30	30-35	10-15
	3-16	Very cobbly clay loam, very gravelly clay loam, very gravelly loam	GC	A-6, A-7	0-5	10-30	50-60	45-55	40-50	35-45	35-45	15-20
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
757:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
Snotown	0-7	Very gravelly coarse sandy loam	GP-GM, GM	A-1	0	0	35-55	25-45	10-25	5-15	20-25	NP-5
	7-30	Extremely gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	35-55	20-45	10-30	5-20	20-25	NP-5
	30-33	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
758:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tweener	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
Graley	0-9	Very gravelly loam	GM	A-1, A-2	0	0-5	30-50	25-45	20-40	15-30	20-25	NP-5
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
759:												
Cleavage	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tweener	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
759 (con.):												
Scalfar	0-2	Very gravelly loam	GC, GM-GC	A-2	0	10-25	40-55	35-50	35-45	25-35	25-35	5-15
	2-11	Very gravelly clay loam	GC	A-2, A-6	0	10-30	35-60	30-50	30-50	20-40	30-40	15-20
	11-25	Extremely cobbly loam, very cobbly loam	GM-GC	A-2	0	30-50	30-50	25-40	20-35	15-30	20-30	5-10
	25-60	Extremely cobbly sandy loam, extremely cobbly coarse sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0	35-55	25-45	20-35	10-25	5-15	15-25	NP-5
760:												
Jericho	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
761:												
Jericho	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
Gance	0-5	Very gravelly loam	GC	A-2, A-6	0	0-25	45-70	30-50	25-45	20-40	30-35	10-15
	5-20	Very gravelly clay, very gravelly sandy clay, extremely gravelly clay	GC	A-2, A-7	0-5	0-30	40-70	20-55	15-55	10-40	40-60	20-35
	20-60	Extremely gravelly sandy loam, very cobbly sandy loam, extremely gravelly loam	GM, GM-GC, GP-GM	A-2, A-4, A-1	0-5	15-55	25-60	20-55	10-50	5-40	20-30	NP-10
762:												
Jericho	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
762 (con.):												
Gance	0-5	Very gravelly loam	GC	A-2, A-6	0	0-25	45-70	30-50	25-45	20-40	30-35	10-15
	5-20	Very gravelly clay, very gravelly sandy clay, extremely gravelly clay	GC	A-2, A-7	0-5	0-30	40-70	20-55	15-55	10-40	40-60	20-35
	20-60	Extremely gravelly sandy loam, very cobbly sandy loam, extremely gravelly loam	GM, GM-GC, GP-GM	A-2, A-4, A-1	0-5	15-55	25-60	20-55	10-50	5-40	20-30	NP-10
763:												
Jericho	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
Pamison	0-13	Gravelly loam	GC, CL, SC	A-6	0	0	55-75	50-70	45-65	35-55	25-35	10-15
	13-24	Very gravelly sandy loam, extremely gravelly sandy loam	GM-GC, GP-GC	A-2	0	0-15	25-45	20-40	10-30	5-25	20-30	5-10
	24-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP-GM	A-1	0	0-15	25-45	20-40	10-25	5-10	0-14	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
764:												
Jericho---------	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
Jericho---------	0-7	Silt loam	ML	A-4	0	0	80-95	75-90	70-80	60-70	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
765:												
Jericho---------	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP
Pequop----------	0-10	Gravelly loam	GM-GC, CL-ML	A-4	0	5-10	60-80	55-75	40-70	35-55	20-30	5-10
	10-60	Very gravelly sandy clay loam, extremely gravelly sandy clay loam, very gravelly clay loam	GC	A-2	0	10-30	30-55	25-50	10-40	10-35	30-40	10-20
Yuko------------	0-4	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
780:												
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Yuko	0-4	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP
781:												
Puett	0-6	Gravelly sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly sandy loam	SC-SM, GM-GC	A-2	0	0-10	45-65	25-50	15-35	10-20	20-25	5-10
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
790:												
Loomis----------	0-1	Very cobbly loam	GC, SC	A-6, A-2	0	30-55	60-80	50-65	40-60	25-50	30-35	10-15
	1-5	Very cobbly clay loam, very gravelly clay loam	GC	A-7	0	15-40	55-70	50-65	35-50	35-45	40-50	20-25
	5-9	Very cobbly clay, very gravelly clay	GC	A-7, A-2	0	0-55	35-70	30-50	25-50	25-50	50-65	25-35
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Ackett----------	0-2	Very gravelly loam	GM, GC	A-2	0	0	35-55	25-45	20-35	15-25	35-40	10-15
	2-5	Gravelly clay loam, clay loam, clay	ML, GM, MH	A-7	0	0-10	65-95	55-90	45-80	35-70	45-55	15-25
	5-13	Extremely cobbly clay, extremely gravelly clay, very cobbly clay loam	GC, GM	A-2, A-7	0	30-60	20-65	15-60	10-45	10-40	45-60	15-30
	13-51	Indurated			0	0	0	0	0	0	---	NP
	51-61	Coarse sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SM	A-4, A-2, A-1	0	0-10	70-95	60-90	40-70	20-45	15-25	NP-5
Dewar----------	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
796:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
797:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
797 (con.):												
Amene	0-8	Very gravelly silt loam	GC	A-2, A-6	0	0	40-55	35-50	30-45	25-45	30-35	10-15
	8-16	Very gravelly silt loam, very gravelly loam	GC	A-2, A-6	0	0-25	35-60	30-45	25-45	20-40	30-35	10-15
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
798:												
Gollaher	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Amene	0-8	Very gravelly silt loam	GC	A-2, A-6	0	0	40-55	35-50	30-45	25-45	30-35	10-15
	8-16	Very gravelly silt loam, very gravelly loam	GC	A-2, A-6	0	0-25	35-60	30-45	25-45	20-40	30-35	10-15
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hackwood	0-8	Gravelly loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	8-30	Gravelly loam, gravelly silt loam	GM-GC, SC-SM, CL-ML, CL	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	30-61	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
799:												
Gollaher	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
799 (con.):												
Vitale----------	0-5	Very gravelly loam	GM-GC, GC	A-2, A-1	0	10-15	35-60	30-55	25-45	20-35	25-35	5-15
	5-21	Very gravelly clay loam, very cobbly clay loam, very cobbly loam	GC	A-6, A-2, A-7	0-15	10-30	35-65	30-60	30-55	25-45	35-45	15-25
	21-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
801:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Amene----------	0-8	Very gravelly silt loam	GC	A-2, A-6	0	0	40-55	35-50	30-45	25-45	30-35	10-15
	8-16	Very gravelly silt loam, very gravelly loam	GC	A-2, A-6	0	0-25	35-60	30-45	25-45	20-40	30-35	10-15
	16-20	Unweathered bedrock			0	0	0	0	0	0	---	NP
Onkeyo----------	0-8	Very gravelly silty clay loam	GM	A-2, A-7	0	5-30	40-60	30-50	30-50	25-45	40-45	10-15
	8-15	Extremely cobbly silty clay loam, very cobbly silty clay loam	GM, SM	A-2, A-6, A-7	0-10	35-60	55-75	20-50	20-50	15-45	35-45	10-15
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
802:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
802 (con.):												
Hackwood--------	0-8	Gravelly loam	CL	A-6	0	5-10	75-80	65-80	60-75	50-65	25-35	10-15
	8-30	Gravelly loam, gravelly silt loam	GM-GC, SC-SM, CL-ML, CL	A-4, A-6	0	0	60-80	50-75	40-70	35-65	25-35	5-15
	30-61	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
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
804:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Onkeyo----------	0-10	Very gravelly silty clay loam	GM	A-2, A-7	0	5-30	40-60	30-50	30-50	25-45	40-45	10-15
	10-36	Extremely cobbly silty clay loam, very cobbly silty clay loam	GM, SM	A-2, A-6, A-7	0-10	35-60	55-75	20-50	20-50	15-45	35-45	10-15
	36-40	Unweathered bedrock			0	0	0	0	0	0	---	NP
Nirac----------	0-14	Gravelly silt loam	ML	A-4	0	0-5	70-85	60-75	55-70	50-65	20-25	NP-5
	14-25	Very gravelly loam, very gravelly silt loam	GM-GC	A-2	0	0-15	30-60	25-50	20-45	15-35	25-30	5-10
	25-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
805:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
805 (con.):												
Ekim	0-9	Very gravelly loam	GC	A-2	0	0-10	45-60	35-50	30-45	25-35	30-35	10-15
	9-25	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-50	25-40	30-40	10-15
	25-33	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
806:												
Gollaher	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Vitale	0-5	Very gravelly loam	GM-GC, GC	A-2, A-1	0	10-15	35-60	30-55	25-45	20-35	25-35	5-15
	5-21	Very gravelly clay loam, very cobbly clay loam, very cobbly loam	GC	A-6, A-2, A-7	0-15	10-30	35-65	30-60	30-55	25-45	35-45	15-25
	21-25	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
807:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Belsac----------	0-20	Very gravelly loam	GM-GC	A-2	0	0-15	35-55	30-50	25-45	20-35	25-30	5-10
	20-37	Very gravelly loam	GM-GC	A-2	0	0-15	35-55	30-50	25-45	20-35	25-30	5-10
	37-41	Weathered bedrock			0	0	0	0	0	0	---	NP
808:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Extremely gravelly loam	GM-GC	A-2	0	0-10	35-45	15-25	10-25	10-20	25-30	5-10
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hapgood---------	0-4	Very gravelly loam	GM-GC, GM	A-2	0	0	40-55	35-50	30-40	25-35	20-30	NP-10
	4-31	Very gravelly loam, very gravelly fine sandy loam	GM-GC, GC	A-2	0	0-10	50-60	45-55	35-50	25-35	25-30	5-10
	31-50	Very cobbly loam, very gravelly sandy loam	GM	A-1, A-2	0	15-40	55-65	50-60	35-45	20-35	20-30	NP-5
	50-54	Unweathered bedrock			0	0	0	0	0	0	---	NP
809:												
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
809 (con.):												
Xica	0-3	Sandy loam	SM	A-2	0	0	90-100	75-90	40-65	25-35	---	NP
	3-17	Gravelly sandy loam, gravelly sandy clay loam	SM, SC-SM	A-1, A-2	0	0	80-100	50-75	30-55	15-30	20-30	NP-10
	17-21	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
810:												
Igdell	0-2	Very gravelly clay loam	GC	A-7, A-6, A-2	0	0-10	45-60	35-50	30-50	25-40	35-45	15-20
	2-31	Clay, gravelly clay, silty clay	GC, CH	A-7	0	0-10	60-100	55-90	50-85	45-80	50-70	25-40
	31-37	Gravelly clay loam, very gravelly sandy clay loam, gravelly loam	GC, CL, GM, ML	A-6, A-7, A-2	0	0-10	50-90	45-85	35-85	25-70	35-45	10-20
	37-45	Indurated			0	0	0	0	0	0	---	NP
Kleckner	0-7	Gravelly loam	CL-ML, ML	A-4	0	10-25	65-90	60-85	55-80	50-75	25-35	5-10
	7-11	Very gravelly clay, very cobbly clay loam, very cobbly clay	GC	A-2, A-7	0	10-45	45-70	30-60	30-55	25-45	40-55	25-35
	11-42	Very gravelly clay loam, very gravelly clay, very cobbly clay	GC, SC	A-2, A-7	0	0-45	45-90	25-60	25-55	20-50	40-55	25-35
	42-60	Loam, gravelly loam	GM-GC, GM, CL-ML, ML	A-4	0	0-5	65-90	60-85	50-75	40-60	20-30	NP-10
820:												
Cotant	0-3	Very gravelly loam	GC	A-2	0	0-5	50-60	35-50	30-45	25-35	30-35	10-15
	3-12	Clay	CH, CL	A-7	0	0	90-100	75-100	60-100	50-95	45-65	25-40
	12-16	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
820 (con.):												
Eboda	0-9	Loam	SM, ML	A-4	0	0-5	80-95	75-90	65-80	45-65	25-35	NP-10
	9-30	Loam, clay loam	CL	A-6, A-7	0	0-5	80-95	75-90	70-90	50-70	35-45	15-20
	30-37	Gravelly sandy clay loam, gravelly clay loam, gravelly loam	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	0	0-5	70-85	55-75	45-70	30-60	25-35	5-15
	37-41	Weathered bedrock			0	0	0	0	0	0	---	NP
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
822:												
Cotant	0-3	Gravelly clay loam	GC, CL	A-6, A-7	0	0	60-85	50-70	40-65	35-60	35-45	15-20
	3-12	Clay	CH, CL	A-7	0	0	90-100	75-100	60-100	50-95	45-65	25-40
	12-16	Weathered bedrock			0	0	0	0	0	0	---	NP
Chen	0-6	Very cobbly loam	GC, GM-GC	A-2, A-4, A-6	0-10	45-55	55-65	50-60	45-55	30-40	25-35	5-15
	6-12	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2	0-15	5-50	45-55	30-50	25-40	25-35	55-65	35-40
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Graley	0-9	Extremely gravelly loam	GC	A-2	0	0-5	25-35	15-25	10-25	10-20	25-35	10-15
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
830:												
Onkeyo	0-8	Very gravelly silty clay loam	GM	A-2, A-7	0	5-30	40-60	30-50	30-50	25-45	40-45	10-15
	8-15	Extremely cobbly silty clay loam, very cobbly silty clay loam	GM, SM	A-2, A-6, A-7	0-10	35-60	55-75	20-50	20-50	15-45	35-45	10-15
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
830 (con.):												
Pequop	0-10	Gravelly loam	GM-GC, CL-ML	A-4	0	5-10	60-80	55-75	40-70	35-55	20-30	5-10
	10-60	Very gravelly sandy clay loam, extremely gravelly sandy clay loam, very gravelly clay loam	GC	A-2	0	10-30	30-55	25-50	10-40	10-35	30-40	10-20
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
850:												
Pamison	0-13	Gravelly loam	GC, CL, SC	A-6	0	0	55-75	50-70	45-65	35-55	25-35	10-15
	13-24	Very gravelly sandy loam, extremely gravelly sandy loam	GM-GC, GP-GC	A-2	0	0-15	25-45	20-40	10-30	5-25	20-30	5-10
	24-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP-GM	A-1	0	0-15	25-45	20-40	10-25	5-10	0-14	NP
Affey	0-12	Gravelly loam	GC, SC, CL	A-6	0	0-10	55-80	50-75	45-70	35-55	30-35	10-15
	12-21	Gravelly clay loam	GC, CL	A-7	0	0-10	55-80	50-75	45-70	40-65	45-50	20-25
	21-34	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-15	30-55	25-50	20-45	15-40	45-60	20-30
	34-60	Extremely gravelly clay loam	GC, GP-GC	A-2	0	10-25	15-35	10-30	5-25	5-20	35-50	15-25
Pamison	0-13	Gravelly loam	GC, CL, SC	A-6	0	0	55-75	50-70	45-65	35-55	25-35	10-15
	13-24	Very gravelly sandy loam, extremely gravelly sandy loam	GM-GC, GP-GC	A-2	0	0-15	25-45	20-40	10-30	5-25	20-30	5-10
	24-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP-GM	A-1	0	0-15	25-45	20-40	10-25	5-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
851:												
Pamison	0-13	Gravelly loam	GC, CL, SC	A-6	0	0	55-75	50-70	45-65	35-55	25-35	10-15
	13-24	Very gravelly sandy loam, extremely gravelly sandy loam	GM-GC, GP-GC	A-2	0	0-15	25-45	20-40	10-30	5-25	20-30	5-10
	24-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP-GM	A-1	0	0-15	25-45	20-40	10-25	5-10	0-14	NP
Amtoft	0-3	Extremely gravelly loam	GM, GM-GC	A-2	0-10	0-20	25-40	15-30	15-25	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Coser	0-4	Gravelly clay loam	GC, CL	A-6, A-7	0	0	55-80	50-75	40-65	35-55	35-45	15-25
	4-22	Clay, gravelly clay	CH	A-7	0	0-10	80-100	70-90	70-90	65-85	55-65	30-40
	22-28	Silty clay, clay	CH	A-7	0	0	80-100	75-90	75-90	70-85	50-60	25-30
	28-61	Weathered bedrock			0	0	0	0	0	0	---	NP
880:												
Heckison	0-6	Silt loam	CL-ML, ML	A-4	0	0-10	95-100	90-100	85-95	70-90	20-30	NP-10
	6-28	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0-10	85-100	80-100	75-95	60-85	25-40	5-20
	28-33	Gravelly silt loam, silt loam, very fine sandy loam	ML, CL-ML, GM, GM-GC	A-4	0	0-20	65-95	60-95	55-90	40-70	15-25	NP-10
	33-39	Indurated			0	0	0	0	0	0	---	NP
	39-43	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
880 (con.):												
Xerxes----------	0-2	Extremely cobbly loamy sand	GP-GM	A-1	0	45-55	30-50	20-45	10-25	5-10	0-14	NP
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
881:												
Gochea----------	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
Chayson---------	0-3	Loam	CL-ML, ML	A-4	0	0	90-100	85-100	70-95	50-75	25-35	5-10
	3-20	Loam, clay loam	CL	A-6	0	0-5	90-100	85-100	70-100	60-80	30-40	10-20
	20-36	Gravelly loam, loam, clay loam	CL, SC	A-6	0	0-5	75-100	70-100	60-100	40-80	30-40	10-20
	36-60	Indurated			0	0	0	0	0	0	---	NP
Pamison---------	0-13	Gravelly loam	GC, CL, SC	A-6	0	0	55-75	50-70	45-65	35-55	25-35	10-15
	13-24	Very gravelly sandy loam, extremely gravelly sandy loam	GM-GC, GP-GC	A-2	0	0-15	25-45	20-40	10-30	5-25	20-30	5-10
	24-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP-GM	A-1	0	0-15	25-45	20-40	10-25	5-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
930:												
Orovada	0-12	Loam	ML	A-4	0	0	95-100	90-100	80-95	60-75	25-35	NP-5
	12-19	Fine sandy loam, loam	SM, ML	A-4	0	0	75-100	75-100	60-80	40-60	20-30	NP-5
	19-65	Stratified fine sandy loam to silt loam	SM, ML	A-4	0	0	75-100	75-100	60-85	35-55	20-30	NP-5
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
Orovada	0-12	Very fine sandy loam	ML	A-4	0	0	95-100	90-100	80-95	60-75	20-30	NP-5
	12-19	Fine sandy loam, loam	SM, ML	A-4	0	0	75-100	75-100	60-80	40-60	20-30	NP-5
	19-65	Stratified fine sandy loam to silt loam	SM, ML	A-4	0	0	75-100	75-100	60-85	35-55	20-30	NP-5
931:												
Orovada	0-12	Loam	ML	A-4	0	0	95-100	90-100	80-95	60-75	25-35	NP-5
	12-19	Fine sandy loam, loam	SM, ML	A-4	0	0	75-100	75-100	60-80	40-60	20-30	NP-5
	19-65	Stratified fine sandy loam to silt loam	SM, ML	A-4	0	0	75-100	75-100	60-85	35-55	20-30	NP-5
Oupico	0-4	Sandy loam	SM	A-2, A-4	0	0	95-100	95-100	60-70	30-40	15-25	NP-5
	4-25	Gravelly loam, loam, sandy loam	SM, ML	A-2, A-4	0	0	65-95	60-90	45-80	25-65	15-25	NP-5
	25-49	Indurated			0	0	0	0	0	0	---	NP
	49-62	Stratified sandy loam to very fine sandy loam	SM, ML	A-4	0	0	80-95	75-95	70-80	40-55	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
932:												
Orovada	0-12	Loam	ML	A-4	0	0	95-100	90-100	80-95	60-75	25-35	NP-5
	12-19	Fine sandy loam, loam	SM, ML	A-4	0	0	75-100	75-100	60-80	40-60	20-30	NP-5
	19-65	Stratified fine sandy loam to silt loam	SM, ML	A-4	0	0	75-100	75-100	60-85	35-55	20-30	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
932 (con.):												
Xipe	0-3	Silt loam	CL	A-6	0	0	95-100	90-100	90-100	85-95	25-40	10-15
	3-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	90-100	85-95	25-45	10-20
	26-60	Stratified extremely gravelly coarse sand to loamy sand	GM, SM	A-1, A-2	0	0	55-80	50-75	30-55	10-25	0-14	NP
Ocala	0-8	Silt loam	ML, CL	A-4, A-6	0	0	100	100	90-100	70-80	30-40	5-15
	8-46	Silt loam, silty clay loam	ML, CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-20
	46-60	Stratified gravelly very fine sandy loam to silt loam	GM, SM, ML	A-4	0	0	55-90	55-85	50-75	35-55	---	NP
940:												
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
Anowell	0-2	Gravelly loam	GC, CL	A-6	0	0	65-85	55-75	50-70	35-60	25-35	10-15
	2-6	Gravelly clay loam, clay loam, gravelly loam	GC, CL	A-6	0	0	65-90	55-85	50-80	35-75	30-40	15-20
	6-10	Weathered bedrock			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
941:												
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
941 (con.):												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
942:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
Anowell	0-2	Gravelly loam	GC, CL	A-6	0	0	65-85	55-75	50-70	35-60	25-35	10-15
	2-6	Gravelly clay loam, clay loam, gravelly loam	GC, CL	A-6	0	0	65-90	55-85	50-80	35-75	30-40	15-20
	6-10	Weathered bedrock			0	0	0	0	0	0	---	NP
943:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Puett	0-6	Gravelly fine sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
943 (con.):												
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
944:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Peeko	0-2	Silt loam	CL, CL-ML	A-6, A-4	0	0-10	80-95	75-90	70-90	60-80	25-35	5-15
	2-5	Gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	10-15	60-90	55-80	50-75	45-65	25-35	5-15
	5-10	Very gravelly silt loam, very cobbly silt loam, gravelly silt loam	GM-GC, GC, CL-ML, CL	A-6, A-4	0	0-45	50-80	45-75	40-75	35-60	25-35	5-15
	10-35	Indurated			0	0	0	0	0	0	---	NP
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
945:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
945 (con.):												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
946:												
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
947:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Kelk	0-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
	12-50	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	85-95	25-35	5-15
	50-63	Silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-35	5-15
Hundraw	0-3	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
948:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
948 (con.):												
Puett	0-6	Gravelly fine sandy loam	SC-SM	A-2	0	0-5	70-80	60-70	45-55	20-35	20-30	5-10
	6-11	Coarse sandy loam, gravelly loam, sandy loam	SM, ML, GM	A-1, A-2, A-4	0	0	55-95	50-90	30-80	15-55	---	NP
	11-15	Weathered bedrock			0	0	0	0	0	0	---	NP
Trinidad	0-2	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	25-35	5-10
	2-13	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	25-35	5-10
	13-21	Weathered bedrock			0	0	0	0	0	0	---	NP
	21-31	Unweathered bedrock			0	0	0	0	0	0	---	NP
949:												
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Quopant	0-5	Very gravelly sandy loam	GM	A-1	0	10-15	40-60	35-55	20-40	10-20	20-25	NP-5
	5-14	Very gravelly sandy clay loam, very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	10-15	40-60	35-55	30-50	15-40	25-35	10-20
	14-18	Sandy loam	SM, SC-SM	A-2	0	0-10	100	100	35-60	25-35	20-30	NP-10
	18-28	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
961:												
Trinidad	0-2	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	25-35	5-10
	2-13	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	25-35	5-10
	13-21	Weathered bedrock			0	0	0	0	0	0	---	NP
	21-31	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
961 (con.):												
Trinidad--------	0-2	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	25-35	5-10
	2-13	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0-10	60-80	55-75	50-70	40-65	25-35	5-10
	13-21	Weathered bedrock			0	0	0	0	0	0	---	NP
	21-31	Unweathered bedrock			0	0	0	0	0	0	---	NP
Izod------------	0-2	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	2-10	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
970:												
Hunewill--------	0-6	Gravelly loam	GM, GM-GC, SM, SC-SM	A-4	0	0	55-85	50-75	45-65	35-50	20-30	NP-10
	6-20	Very gravelly clay loam, very gravelly sandy clay loam, very gravelly loam	GC, GM	A-2, A-6	0	0-15	45-55	40-50	30-45	20-40	35-40	10-15
	20-61	Extremely cobbly sand, extremely gravelly sand, extremely cobbly loamy sand	GP, GP-GM	A-1	0-5	15-50	35-45	30-40	10-25	0-10	---	NP
Bilbo-----------	0-2	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	40-65	30-50	25-45	20-40	25-35	5-15
	2-32	Very gravelly sandy clay, very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0	0-25	45-65	35-50	30-45	20-40	40-55	20-35
	32-60	Extremely gravelly loamy sand, very gravelly sandy loam	GP-GM, GM	A-1	0	0-10	30-60	15-50	10-40	5-20	15-25	NP-5
Devilsgait------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-95	25-35	5-10
	9-61	Stratified silt loam to silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	80-95	30-50	10-20

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
980:												
Boso	0-9	Loam	CL	A-6	0	0	80-100	75-100	60-100	55-90	25-35	10-15
	9-19	Very gravelly loam, very gravelly silt loam	GC	A-2, A-6	0	0	40-55	35-50	30-50	25-45	25-35	10-15
	19-34	Indurated			0	0	0	0	0	0	---	NP
	34-40	Gravelly loam, loam	GM-GC, SC-SM	A-2, A-4	0	0	60-95	55-90	30-60	30-50	20-25	5-10
	40-54	Extremely gravelly loam, very gravelly loam	GM-GC	A-2	0	0	20-40	15-35	10-30	10-25	20-25	5-10
Dewar	0-2	Gravelly silt loam	GC, CL, SC	A-6	0	0-5	60-90	55-80	45-80	35-70	25-35	10-15
	2-14	Gravelly silty clay loam, gravelly clay loam	GC, CL	A-6, A-7	0	0-10	65-90	60-80	55-80	45-75	35-45	15-20
	14-60	Indurated			0	0	0	0	0	0	---	NP
990:												
Bluehill	0-9	Fine sandy loam	ML	A-4	0	0-10	85-100	80-100	75-95	50-60	25-35	NP
	9-26	Loam, very fine sandy loam, fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-65	25-40	NP
	26-30	Weathered bedrock			0	0	0	0	0	0	---	NP
Tomsherry	0-10	Fine sandy loam	SM	A-4	0	0	90-100	85-100	60-80	40-50	25-35	NP-5
	10-20	Fine sandy loam, sandy loam	SM	A-4, A-2	0	0	80-100	75-100	55-80	30-50	25-35	NP-5
	20-33	Indurated			0	0	0	0	0	0	---	NP
	33-60	Loamy fine sand, loamy sand	SM	A-2	0	0	80-100	75-100	50-80	20-35	---	NP
Xerxes	0-2	Extremely cobbly loamy sand	GP-GM	A-1	0	45-55	30-50	20-45	10-25	5-10	0-14	NP
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1010:												
Agassiz---------	0-2	Very gravelly loam	GC	A-2, A-6	0	10-25	35-55	30-50	25-45	20-40	25-35	10-15
	2-11	Extremely cobbly loam, very cobbly loam	GC	A-2, A-6	0-5	45-65	25-60	20-55	15-45	10-40	25-35	10-15
	11-21	Unweathered bedrock			0	0	0	0	0	0	---	NP
Croesus---------	0-3	Extremely stony loam	GM	A-2	25-50	10-45	40-55	35-50	30-45	25-35	20-25	NP-5
	3-18	Extremely gravelly loam, very gravelly sandy loam, very gravelly loam	GM, GP-GM	A-1	0-10	0-30	25-45	20-40	10-35	5-25	20-25	NP-5
	18-28	Extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GM, GP-GM	A-1	0-10	0-30	25-45	20-40	10-35	5-25	20-25	NP-5
	28-38	Unweathered bedrock			0	0	0	0	0	0	---	NP
Rubble Land-----	0-60	Fragmental material	GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP
1040:												
Gravier---------	0-4	Gravelly loam	GM, SM	A-4	0	0	65-80	55-75	45-65	35-50	15-25	NP-5
	4-50	Stratified very gravelly loam to extremely gravelly coarse sandy loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	50-60	Stratified extremely gravelly loamy sand to very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-50	25-40	15-25	5-15	---	NP
Shafter---------	0-3	Gravelly loam	GM, ML, SM	A-2, A-4	0	0	55-80	50-75	45-70	30-60	15-25	NP-5
	3-14	Gravelly very fine sandy loam, gravelly loam, gravelly silt loam	GM, SM, ML	A-2, A-4	0	0	55-80	50-75	45-70	30-60	15-25	NP-5
	14-30	Indurated			0	0	0	0	0	0	---	NP
	30-61	Stratified sandy loam to extremely gravelly coarse sand	GP-GM	A-1	0	0-10	20-45	15-40	5-25	5-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1040 (con.):												
Toano	0-8	Silt loam	ML	A-4, A-5	0	0	95-100	95-100	85-100	85-100	30-50	NP-5
	8-31	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	31-46	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	46-61	Stratified extremely gravelly sandy loam to extremely gravelly sand	GP, GP-GM	A-1	0	0	20-30	15-25	10-15	0-10	0-14	NP
1041:												
Gravier	0-4	Gravelly loam	GM, SM	A-4	0	0	65-80	55-75	45-65	35-50	15-25	NP-5
	4-50	Stratified very gravelly loam to extremely gravelly coarse sandy loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	50-60	Stratified extremely gravelly loamy sand to very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-50	25-40	15-25	5-15	---	NP
Wiffo	0-8	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	30-45	20-35	15-25	NP-10
	8-27	Very gravelly sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0-15	0-30	20-40	15-35	10-25	5-15	15-20	NP-5
	27-60	Stratified extremely gravelly sandy loam to very gravelly coarse sand	GP-GM, GM	A-1	0-10	0-30	20-40	15-35	10-20	5-15	15-20	NP-5
1042:												
Gravier	0-4	Very gravelly sandy loam	GM	A-2, A-1	0	0	40-65	35-50	25-40	10-30	15-25	NP-5
	4-50	Stratified very gravelly loam to extremely gravelly coarse sandy loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	50-60	Stratified extremely gravelly loamy sand to very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-50	25-40	15-25	5-15	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1042 (con.):												
Pibler	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
1043:												
Gravier	0-4	Gravelly loam	GM, SM	A-4	0	0	65-80	55-75	45-65	35-50	15-25	NP-5
	4-50	Stratified very gravelly loam to extremely gravelly coarse sandy loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	50-60	Stratified extremely gravelly loamy sand to very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-50	25-40	15-25	5-15	---	NP
Luap	0-3	Very gravelly fine sandy loam	GM	A-2, A-1	0	0	35-55	30-50	25-45	10-30	20-25	NP-5
	3-23	Very gravelly very fine sandy loam, very gravelly fine sandy loam	GM	A-2, A-4, A-1	0	0	35-65	30-60	25-55	15-40	20-25	NP-5
	23-37	Extremely gravelly coarse sand, extremely gravelly loamy sand	GP	A-1	0	0	25-45	10-25	10-20	0-5	0-14	NP
	37-44	Cemented			0	0	0	0	0	0	---	NP
	44-61	Extremely gravelly coarse sand	GP	A-1	0	0-10	25-45	10-25	5-10	0-5	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1050:												
Pibler----------	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
Pibler----------	0-3	Gravelly silt loam	CL-ML, ML, GM-GC, GM	A-4	0	0	55-80	50-75	45-70	35-60	20-30	NP-10
	3-14	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	14-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
Izar----------	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
1051:												
Pibler----------	0-5	Very gravelly loam	GM, GM-GC	A-1, A-2	0	0	30-50	25-40	20-35	15-30	20-30	NP-10
	5-11	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0-10	40-60	35-50	30-45	15-30	20-30	NP-10
	11-22	Indurated			0	0	0	0	0	0	---	NP
	22-47	Extremely gravelly sandy loam, extremely gravelly loamy sand, extremely gravelly loam	GP, GP-GM, GM	A-1	0	0-20	20-35	10-25	5-20	0-15	15-25	NP-5
	47-57	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1051 (con.):												
Pibler----------	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
1052:												
Pibler----------	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
Gravier---------	0-4	Gravelly loam	GM, SM	A-4	0	0	65-80	55-75	45-65	35-50	15-25	NP-5
	4-50	Stratified very gravelly loam to extremely gravelly coarse sandy loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	50-60	Stratified extremely gravelly loamy sand to very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-50	25-40	15-25	5-15	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1054:												
Pibler----------	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
Wiffo----------	0-8	Very gravelly loam	GM, GM-GC	A-2, A-1	0	0-10	40-55	35-50	30-45	20-35	15-25	NP-10
	8-27	Very gravelly sandy loam, extremely gravelly sandy loam	GP-GM, GM	A-1	0-15	0-30	20-40	15-35	10-25	5-15	15-20	NP-5
	27-60	Stratified extremely gravelly sandy loam to very gravelly coarse sand	GP-GM, GM	A-1	0-10	0-30	20-40	15-35	10-20	5-15	15-20	NP-5
1055:												
Pibler----------	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1055 (con.):												
Gravier	0-4	Very gravelly sandy loam	GM	A-2, A-1	0	0	40-65	35-50	25-40	10-30	15-25	NP-5
	4-50	Stratified very gravelly loam to extremely gravelly coarse sandy loam	GM	A-1	0	0-15	30-55	25-50	15-35	10-25	15-25	NP-5
	50-60	Stratified extremely gravelly loamy sand to very gravelly loamy sand	GM, GP-GM	A-1	0	0-15	30-50	25-40	15-25	5-15	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
1056:												
Pibler	0-3	Very gravelly loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	15-35	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
Valmy	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	0-5	85-100	80-100	60-80	30-55	15-25	NP-5
	6-60	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-4, A-2, A-1	0	0-5	80-95	75-90	40-70	20-45	15-25	NP-5
1060:												
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1060 (con.):												
Holborn	0-3	Gravelly loam	GC, CL	A-6	0	0-10	55-80	50-75	45-65	35-55	25-35	10-15
	3-7	Gravelly clay loam, gravelly loam	GC, CL	A-6	0	0-10	60-80	50-75	45-70	35-60	25-35	10-15
	7-17	Weathered bedrock			0	0	0	0	0	0	---	NP
Kzin	0-3	Very gravelly sandy loam	GM-GC	A-2	0	0-15	40-50	35-50	25-35	15-20	20-30	5-10
	3-6	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	6-10	Weathered bedrock			0	0	0	0	0	0	---	NP
1062:												
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
Jackpot	0-4	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	4-11	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
1064:												
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1064 (con.):												
Golsum----------	0-3	Very gravelly clay loam	GC	A-2, A-6	0	0	35-60	25-50	20-45	20-40	35-40	15-20
	3-16	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-15	35-60	35-50	25-45	20-45	40-55	20-30
	16-26	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-10	35-60	35-50	25-45	20-45	40-50	20-25
	26-32	Weathered bedrock			0	0	0	0	0	0	---	NP
Golsum----------	0-2	Very gravelly clay loam	GC	A-2, A-6	0	0	35-60	25-50	20-45	20-40	35-40	15-20
	2-12	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-15	35-60	35-50	25-45	20-45	40-55	20-30
	12-21	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-10	35-60	35-50	25-45	20-45	40-50	20-25
	21-30	Weathered bedrock			0	0	0	0	0	0	---	NP
1070:												
Loray-----------	0-12	Gravelly loam	GM, GM-GC, SM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-50	20-30	NP-10
	12-61	Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-15	20-35	10-25	5-20	0-10	---	NP
Luap------------	0-3	Very gravelly fine sandy loam	GM	A-2, A-1	0	0	35-55	30-50	25-45	10-30	20-25	NP-5
	3-23	Very gravelly very fine sandy loam, very gravelly fine sandy loam	GM	A-2, A-4, A-1	0	0	35-65	30-60	25-55	15-40	20-25	NP-5
	23-37	Extremely gravelly coarse sand, extremely gravelly loamy sand	GP	A-1	0	0	25-45	10-25	10-20	0-5	0-14	NP
	37-44	Cemented			0	0	0	0	0	0	---	NP
	44-61	Extremely gravelly coarse sand	GP	A-1	0	0-10	25-45	10-25	5-10	0-5	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1070 (con.):												
Toano	0-8	Silt loam	ML	A-4, A-5	0	0	95-100	95-100	85-100	85-100	30-50	NP-5
	8-31	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	31-46	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	46-61	Stratified extremely gravelly sandy loam to extremely gravelly sand	GP, GP-GM	A-1	0	0	20-30	15-25	10-15	0-10	0-14	NP
1071:												
Loray	0-12	Loamy fine sand	SM	A-2	0	0	80-100	75-100	65-85	20-30	---	NP
	12-61	Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-15	20-35	10-25	5-20	0-10	---	NP
Luap	0-3	Very gravelly fine sandy loam	GM	A-2, A-1	0	0	35-55	30-50	25-45	10-30	20-25	NP-5
	3-23	Very gravelly very fine sandy loam, very gravelly fine sandy loam	GM	A-2, A-4, A-1	0	0	35-65	30-60	25-55	15-40	20-25	NP-5
	23-37	Extremely gravelly coarse sand, extremely gravelly loamy sand	GP	A-1	0	0	25-45	10-25	10-20	0-5	0-14	NP
	37-44	Cemented			0	0	0	0	0	0	---	NP
	44-61	Extremely gravelly coarse sand	GP	A-1	0	0-10	25-45	10-25	5-10	0-5	0-14	NP
1072:												
Loray	0-12	Loamy fine sand	SM	A-2	0	0	80-100	75-100	65-85	20-30	---	NP
	12-61	Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-15	20-35	10-25	5-20	0-10	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1072 (con.):												
Loray----------	0-12	Gravelly loam	GM, GM-GC, SM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-50	20-30	NP-10
	12-61	Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-15	20-35	10-25	5-20	0-10	---	NP
Hardhat---------	0-5	Silt loam	ML	A-4	0	0	80-100	75-100	70-95	55-80	15-25	NP-5
	5-17	Silt loam, very fine sandy loam	ML	A-4	0	0	80-100	75-100	70-95	50-80	15-25	NP-5
	17-32	Stratified silt loam to gravelly sand	SM	A-1, A-2, A-4	0	0	70-95	60-90	35-85	20-50	15-25	NP-5
	32-60	Stratified very fine sandy loam to very gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-85	45-75	35-65	20-45	15-25	NP-5
1120:												
Ashart----------	0-3	Sandy loam	SM	A-2	0	0	80-95	75-90	45-65	25-35	20-30	NP-5
	3-7	Loam, sandy loam	SM, ML	A-2, A-4	0	0	80-100	75-100	50-85	30-65	25-35	NP-5
	7-15	Loam, clay loam	ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	50-75	30-45	5-15
	15-25	Weathered bedrock			0	0	0	0	0	0	---	NP
Zark----------	0-5	Loamy fine sand	SM	A-2, A-4	0	0	95-100	90-100	70-85	20-45	0-14	NP
	5-29	Loamy fine sand, loamy sand	SM	A-2, A-4	0	0	95-100	85-100	60-85	20-45	0-14	NP
	29-35	Gravelly loamy fine sand	SM	A-2	0	0	65-80	60-75	50-65	15-30	0-14	NP
	35-45	Weathered bedrock			0	0	0	0	0	0	---	NP
1140:												
Elocin----------	0-6	Gravelly silt loam	CL, GC	A-6	0	0	55-80	50-75	45-70	35-60	25-35	10-15
	6-10	Silt loam, silty clay loam	CL	A-6, A-7	0	0	80-95	75-90	70-85	60-80	35-45	15-25
	10-25	Very gravelly clay, very cobbly clay	GC	A-2	0	0-45	30-55	25-50	25-40	20-35	55-65	35-45
	25-36	Gravelly clay, very gravelly clay	GC, CH	A-7	0	0-15	55-80	40-75	35-75	35-70	55-65	35-45
	36-60	Loam, gravelly loam, gravelly sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2	0	0-10	70-95	60-90	40-80	25-60	15-30	NP-10
Stampede--------	0-5	Gravelly loam	CL	A-6	0	0	70-80	65-75	60-70	50-65	25-35	10-15
	5-27	Clay, silty clay	CH	A-7	0	0-10	90-100	85-95	80-90	70-85	50-60	30-40
	27-60	Indurated			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1140 (con.):												
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
1141:												
Elocin	0-6	Gravelly silt loam	CL, GC	A-6	0	0	55-80	50-75	45-70	35-60	25-35	10-15
	6-10	Silt loam, silty clay loam	CL	A-6, A-7	0	0	80-95	75-90	70-85	60-80	35-45	15-25
	10-25	Very gravelly clay, very cobbly clay	GC	A-2	0	0-45	30-55	25-50	25-40	20-35	55-65	35-45
	25-36	Gravelly clay, very gravelly clay	GC, CH	A-7	0	0-15	55-80	40-75	35-75	35-70	55-65	35-45
	36-60	Loam, gravelly loam, gravelly sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2	0	0-10	70-95	60-90	40-80	25-60	15-30	NP-10
Donna	0-8	Gravelly loam	CL	A-6	0	0	65-75	60-75	55-70	50-60	30-40	10-20
	8-22	Clay	CH	A-7	0	0	80-90	75-85	75-80	70-80	60-70	30-40
	22-38	Indurated			0	0	0	0	0	0	---	NP
	38-68	Stratified extremely gravelly sandy loam to gravelly sandy clay loam	GC	A-2	0-5	10-35	40-55	30-40	20-30	10-20	30-40	10-20
1190:												
Tweener	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalper	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1190 (con.):												
Cleavage	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
1191:												
Tweener	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tweener	0-6	Very gravelly loam	GM-GC	A-2	0	5-15	35-55	30-50	25-40	20-30	25-30	5-10
	6-10	Very cobbly clay loam, very cobbly loam	GC, SC	A-2, A-6, A-7	0-5	45-60	60-80	55-75	40-70	30-50	30-45	10-20
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
Graley	0-9	Very gravelly loam	GM	A-1, A-2	0	0-5	30-50	25-45	20-40	15-30	20-25	NP-5
	9-15	Very gravelly clay loam, very gravelly clay	GC	A-2, A-7	0	0-25	40-55	35-50	30-50	25-40	45-55	20-30
	15-19	Unweathered bedrock			0	0	0	0	0	0	---	NP
1200:												
Xerxes	0-2	Extremely cobbly loamy sand	GP-GM	A-1	0	45-55	30-50	20-45	10-25	5-10	0-14	NP
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1200 (con.):												
Bluehill--------	0-9	Fine sandy loam	ML	A-4	0	0-10	85-100	80-100	75-95	50-60	25-35	NP
	9-26	Loam, very fine sandy loam, fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-65	25-40	NP
	26-30	Weathered bedrock			0	0	0	0	0	0	---	NP
1201:												
Xerxes----------	0-2	Very cobbly sandy loam	GM, SM	A-1	0	25-45	50-70	45-65	25-40	15-25	15-25	NP-5
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP
Zark------------	0-5	Loamy fine sand	SM	A-2, A-4	0	0	95-100	90-100	70-85	20-45	0-14	NP
	5-29	Loamy fine sand, loamy sand	SM	A-2, A-4	0	0	95-100	85-100	60-85	20-45	0-14	NP
	29-35	Gravelly loamy fine sand	SM	A-2	0	0	65-80	60-75	50-65	15-30	0-14	NP
	35-45	Weathered bedrock			0	0	0	0	0	0	---	NP
Ashart----------	0-3	Sandy loam	SM	A-2	0	0	80-95	75-90	45-65	25-35	20-30	NP-5
	3-7	Loam, sandy loam	SM, ML	A-2, A-4	0	0	80-100	75-100	50-85	30-65	25-35	NP-5
	7-15	Loam, clay loam	ML	A-4, A-6, A-7	0	0	80-100	75-100	65-95	50-75	30-45	5-15
	15-25	Weathered bedrock			0	0	0	0	0	0	---	NP
1203:												
Xerxes----------	0-2	Very cobbly sandy loam	GM, SM	A-1	0	25-45	50-70	45-65	25-40	15-25	15-25	NP-5
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1203 (con.):												
Xerxes----------	0-2	Extremely cobbly loamy sand	GP-GM	A-1	0	45-55	30-50	20-45	10-25	5-10	0-14	NP
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
1204:												
Xerxes----------	0-2	Very cobbly sandy loam	GM, SM	A-1	0	25-45	50-70	45-65	25-40	15-25	15-25	NP-5
	2-5	Cobbly fine sandy loam, very cobbly fine sandy loam	SM	A-2, A-4	0	10-35	70-95	60-85	50-75	25-45	15-25	NP-5
	5-10	Very cobbly fine sandy loam, very cobbly sandy loam	GM, SM	A-2, A-1	0-10	30-35	50-70	45-60	25-50	15-30	15-25	NP-5
	10-20	Weathered bedrock			0	0	0	0	0	0	---	NP
Shalper---------	0-9	Very gravelly loam	GC	A-2, A-6	0	0-10	30-55	25-50	20-45	20-40	25-35	10-15
	9-12	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0-15	30-55	25-50	20-45	15-40	30-40	15-20
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Bluehill--------	0-9	Fine sandy loam	ML	A-4	0	0-10	85-100	80-100	75-95	50-60	25-35	NP
	9-26	Loam, very fine sandy loam, fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-100	40-65	25-40	NP
	26-30	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1400:												
Nevador	0-6	Gravelly loam	CL-ML, SC-SM, GM-GC	A-4	0	0	60-80	55-75	45-70	35-55	20-25	5-10
	6-24	Loam, clay loam, sandy clay loam	SC, CL	A-7, A-6	0	0-5	90-100	80-90	70-80	45-55	35-45	15-25
	24-61	Stratified fine sandy loam to loamy sand	SM	A-2, A-4	0	0-10	85-100	70-90	50-60	30-40	20-25	NP-5
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
2000:												
Shuttle	0-6	Silt loam	ML	A-4	0	0	80-100	75-95	65-80	55-75	15-25	NP-5
	6-19	Silt loam, very fine sandy loam, gravelly silt loam	ML	A-4	0	0	80-100	70-90	60-80	50-75	15-25	NP-5
	19-45	Very fine sandy loam, silt loam, gravelly silt loam	ML	A-4	0	0	80-100	70-90	60-80	50-75	15-25	NP-5
	45-60	Indurated			0	0	0	0	0	0	---	NP
Shafter	0-3	Gravelly loam	GM, ML, SM	A-2, A-4	0	0	55-80	50-75	45-70	30-60	15-25	NP-5
	3-14	Gravelly very fine sandy loam, gravelly loam, gravelly silt loam	GM, SM, ML	A-2, A-4	0	0	55-80	50-75	45-70	30-60	15-25	NP-5
	14-30	Indurated			0	0	0	0	0	0	---	NP
	30-61	Stratified sandy loam to extremely gravelly coarse sand	GP-GM	A-1	0	0-10	20-45	15-40	5-25	5-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2000 (con.):												
Loray	0-12	Gravelly loam	GM, GM-GC, SM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-50	20-30	NP-10
	12-61	Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-15	20-35	10-25	5-20	0-10	---	NP
2001:												
Shuttle	0-6	Silt loam	ML	A-4	0	0	80-100	75-95	65-80	55-75	15-25	NP-5
	6-19	Silt loam, very fine sandy loam, gravelly silt loam	ML	A-4	0	0	80-100	70-90	60-80	50-75	15-25	NP-5
	19-45	Very fine sandy loam, silt loam, gravelly silt loam	ML	A-4	0	0	80-100	70-90	60-80	50-75	15-25	NP-5
	45-60	Indurated			0	0	0	0	0	0	---	NP
Hardhat	0-5	Silt loam	ML	A-4	0	0	80-100	75-100	70-95	55-80	15-25	NP-5
	5-17	Silt loam, very fine sandy loam	ML	A-4	0	0	80-100	75-100	70-95	50-80	15-25	NP-5
	17-32	Stratified silt loam to gravelly sand	SM	A-1, A-2, A-4	0	0	70-95	60-90	35-85	20-50	15-25	NP-5
	32-60	Stratified very fine sandy loam to very gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-85	45-75	35-65	20-45	15-25	NP-5
Shuttle	0-5	Silt loam	ML	A-4	0	0	80-100	75-95	65-80	55-75	15-25	NP-5
	5-15	Silt loam, very fine sandy loam, gravelly silt loam	ML	A-4	0	0	80-100	70-90	60-80	50-75	15-25	NP-5
	15-42	Very fine sandy loam, silt loam, gravelly silt loam	ML	A-4	0	0	80-100	70-90	60-80	50-75	15-25	NP-5
	42-61	Stratified fine sandy loam to very gravelly sandy loam	GM, SM	A-2, A-1	0	0	55-85	45-75	30-60	20-35	15-25	NP-5
2010:												
Wiffo Variant	0-17	Extremely stony sandy loam	SC-SM	A-2	35-50	20-30	65-85	60-80	35-55	20-30	25-30	5-10
	17-60	Extremely stony sandy loam	SM	A-1, A-2	35-50	15-50	65-85	60-80	35-55	20-30	20-30	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2030:												
Cavehill--------	0-9	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	9-33	Very gravelly loam, very cobbly loam	GM-GC, GM	A-2, A-4	0-5	10-45	35-70	30-65	25-50	20-40	25-35	5-10
	33-37	Unweathered bedrock			0	0	0	0	0	0	---	NP
Nirac----------	0-10	Gravelly silt loam	ML	A-4	0	0-5	70-85	60-75	55-70	50-65	20-25	NP-5
	10-36	Very gravelly loam, very gravelly silt loam	GM-GC	A-2	0	0-15	30-60	25-50	20-45	15-35	25-30	5-10
	36-40	Unweathered bedrock			0	0	0	0	0	0	---	NP
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
2040:												
Sodhouse--------	0-7	Gravelly silt loam	GM, ML	A-4	0	0	65-80	60-75	55-70	40-65	20-25	NP-5
	7-14	Gravelly loam, gravelly fine sandy loam	GM, ML, SM	A-4	0	0	65-80	60-75	40-70	35-60	20-25	NP-5
	14-38	Indurated			0	0	0	0	0	0	---	NP
	38-61	Stratified very gravelly loamy coarse sand to gravelly loam	GM, SM, GP-GM, SP-SM	A-4, A-1, A-2, A-3	0	0-5	20-80	15-75	10-70	5-50	15-20	NP-5
Loray----------	0-12	Gravelly loam	GM, GM-GC, SM, SC-SM	A-2, A-4	0	0	55-80	50-75	40-70	30-50	20-30	NP-10
	12-61	Stratified extremely gravelly loamy fine sand to extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-15	20-35	10-25	5-20	0-10	---	NP
2042:												
Sodhouse--------	0-7	Gravelly silt loam	GM, ML	A-4	0	0	65-80	60-75	55-70	40-65	20-25	NP-5
	7-14	Gravelly loam, gravelly fine sandy loam	GM, ML, SM	A-4	0	0	65-80	60-75	40-70	35-60	20-25	NP-5
	14-38	Indurated			0	0	0	0	0	0	---	NP
	38-61	Stratified very gravelly loamy coarse sand to gravelly loam	GM, SM, GP-GM, SP-SM	A-4, A-1, A-2, A-3	0	0-5	20-80	15-75	10-70	5-50	15-20	NP-5

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2042 (con.):												
Pibler	0-3	Very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-30	20-30	NP-10
	3-10	Very gravelly loam, very gravelly fine sandy loam	GM, GM-GC	A-1, A-2	0	0	30-60	25-50	20-45	10-35	20-30	NP-10
	10-48	Indurated			0	0	0	0	0	0	---	NP
	48-61	Extremely gravelly sand, extremely gravelly loamy sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0-30	10-30	5-25	5-20	0-10	0-14	NP
2050:												
Hopeka	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tecomar	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
2051:												
Rock Outcrop.												
Hopeka	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
2053:												
Hopeka	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2053 (con.):												
Tecomar	0-5	Extremely gravelly loam	GC	A-2	0	5-30	20-35	15-30	10-25	10-20	25-35	10-15
	5-15	Extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-15	45-60	35-55	20-45	15-40	10-40	25-35	10-15
	15-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
Nirac	0-10	Gravelly silt loam	ML	A-4	0	0-5	70-85	60-75	55-70	50-65	20-25	NP-5
	10-36	Very gravelly loam, very gravelly silt loam	GM-GC	A-2	0	0-15	30-60	25-50	20-45	15-35	25-30	5-10
	36-40	Unweathered bedrock			0	0	0	0	0	0	---	NP
2054: Rock Outcrop.												
Hopeka	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
2060:												
Appian	0-3	Fine sandy loam	SM, SC-SM	A-4	0	0	95-100	90-100	70-85	40-50	20-30	NP-10
	3-8	Clay loam	CL	A-7	0	0	95-100	90-100	85-95	65-75	40-45	15-20
	8-11	Sandy clay loam	SC	A-6	0	0	95-100	90-100	75-85	40-50	30-35	10-15
	11-60	Stratified coarse sand to fine sand	SP, SP-SM	A-1, A-2, A-3	0	0	85-100	75-90	40-55	0-10	0-14	NP
Kawich	0-3	Fine sand	SM	A-2	0	0	100	100	75-90	20-30	---	NP
	3-60	Fine sand	SM	A-2	0	0	100	100	75-90	20-30	---	NP
Kawich	0-6	Sandy loam	SM	A-2, A-4	0	0	100	90-100	60-70	30-40	15-20	NP-5
	6-70	Fine sand	SM	A-2	0	0	100	100	75-90	20-30	---	NP
2070:												
Kawich	0-6	Sandy loam	SM	A-2, A-4	0	0	100	90-100	60-70	30-40	15-20	NP-5
	6-60	Fine sand	SM	A-2	0	0	100	100	75-90	20-30	---	NP
Kawich	0-4	Fine sand	SM	A-2	0	0	100	100	75-90	20-30	---	NP
	4-60	Fine sand	SM	A-2	0	0	100	100	75-90	20-30	---	NP
Ixian	0-12	Silt loam	CL	A-6	0	0	100	100	90-100	80-95	25-35	10-15
	12-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-50	15-25
	42-63	Stratified loamy fine sand to silty clay	CL, CH	A-7	0	0	100	100	95-100	85-95	40-60	20-30

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2080:												
Toano	0-5	Silt loam	ML	A-4, A-5	0	0	100	95-100	85-100	85-100	30-50	NP-5
	5-31	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	100	95-100	95-100	70-95	30-50	NP-5
	31-60	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	100	95-100	95-100	70-95	30-50	NP-5
Toano	0-8	Silt loam	ML	A-4, A-5	0	0	95-100	95-100	85-100	85-100	30-50	NP-5
	8-31	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	31-46	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	46-61	Stratified extremely gravelly sandy loam to extremely gravelly sand	GP, GP-GM	A-1	0	0	20-30	15-25	10-15	0-10	0-14	NP
2081:												
Toano	0-5	Silt loam	ML	A-4, A-5	0	0	100	95-100	85-100	85-100	30-50	NP-5
	5-31	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	100	95-100	95-100	70-95	30-50	NP-5
	31-60	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	100	95-100	95-100	70-95	30-50	NP-5
Tulase	0-6	Very fine sandy loam	ML, CL-ML	A-4	0	0	100	100	95-100	60-70	15-25	NP-10
	6-47	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	70-85	15-25	NP-10
	47-60	Very gravelly clay loam	GC	A-2	0	0	40-50	35-45	30-40	25-35	30-40	15-25
2090:												
Toano	0-8	Silt loam	ML	A-4, A-5	0	0	95-100	95-100	85-100	85-100	30-50	NP-5
	8-31	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	31-46	Silt loam, very fine sandy loam	ML	A-4, A-5	0	0	95-100	95-100	95-100	60-95	30-50	NP-5
	46-61	Stratified extremely gravelly sandy loam to extremely gravelly sand	GP, GP-GM	A-1	0	0	20-30	15-25	10-15	0-10	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
2090 (con.):												
Enko	0-4	Sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	4-18	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	18-25	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	25-60	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
	60-80	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
Sondoa	0-4	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	85-95	30-40	5-15
	4-63	Stratified silty clay loam to silt loam	CL, ML	A-6, A-7	0	0	100	100	95-100	85-95	35-50	10-25
3001:												
Ixian	0-12	Silt loam	CL	A-6	0	0	100	100	90-100	80-95	25-35	10-15
	12-42	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-50	15-25
	42-63	Stratified loamy fine sand to silty clay	CL, CH	A-7	0	0	100	100	95-100	85-95	40-60	20-30
Valmy	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	0-5	85-100	80-100	60-80	30-55	15-25	NP-5
	6-60	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-4, A-2, A-1	0	0-5	80-100	75-100	40-70	20-45	15-25	NP-5
3008:												
Tecomar	0-5	Extremely gravelly silt loam	GC	A-2	0	5-30	20-35	15-30	15-25	10-20	25-35	10-15
	5-15	Extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-15	45-60	35-55	20-45	15-40	10-40	25-35	10-15
	15-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3008 (con.):												
Kram----------	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
3009:												
Tecomar---------	0-5	Extremely gravelly silt loam	GC	A-2	0	5-30	20-35	15-30	15-25	10-20	25-35	10-15
	5-15	Extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-15	45-60	35-55	20-45	15-40	10-40	25-35	10-15
	15-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shalcleav-------	0-4	Extremely gravelly silt loam	GM-GC	A-2	0	0-15	25-35	15-25	15-20	10-20	20-30	5-10
	4-9	Very channery clay loam, very channery silt loam	GC	A-2, A-6	0-5	15-30	50-60	45-50	30-45	25-40	30-40	10-15
	9-12	Extremely flaggy clay, extremely channery clay, extremely channery clay loam	GC	A-2	0-15	55-80	45-50	40-45	35-40	30-35	40-50	20-30
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Gollaher--------	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3010:												
Tecomar	0-7	Extremely stony silt loam	GC	A-2	25-45	15-45	35-55	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hopeka	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Gollaher	0-2	Very gravelly loam	GM-GC, GC	A-2	0	0-10	30-50	25-45	20-45	15-35	25-35	5-15
	2-6	Very gravelly loam, extremely gravelly loam	GM-GC, GC	A-2	0	0-10	20-45	15-40	10-35	10-30	25-35	5-15
	6-10	Unweathered bedrock			0	0	0	0	0	0	---	NP
3012:												
Tecomar	0-7	Extremely stony silt loam	GC	A-2	25-45	15-45	35-55	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kram	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3012 (con.):												
Amtoft----------	0-3	Extremely stony loam	GM, GM-GC	A-2	25-50	10-30	25-40	20-35	15-30	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
3013:												
Rock Outcrop.												
Tecomar----------	0-7	Extremely stony silt loam	GC	A-2	25-45	15-45	35-55	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hopeka----------	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
3014:												
Tecomar----------	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kzin----------	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
Hopeka----------	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3015:												
Tecomar	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
3016:												
Tecomar	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3017:												
Tecomar	0-5	Extremely gravelly loam	GC	A-2	0	5-30	20-35	15-30	10-25	10-20	25-35	10-15
	5-15	Extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-15	45-60	35-55	20-45	15-40	10-40	25-35	10-15
	15-25	Unweathered bedrock			0	0	0	0	0	0	---	NP
Amtoft	0-3	Extremely gravelly loam	GM, GM-GC	A-2	5-10	0-20	25-40	15-30	15-25	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Shivlum	0-11	Silt loam	CL-ML	A-4	0	0	100	100	70-80	60-80	25-30	5-10
	11-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
3018:												
Tecomar	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Nirac	0-10	Gravelly silt loam	ML	A-4	0	0-5	70-85	60-75	55-70	50-65	20-25	NP-5
	10-36	Very gravelly loam, very gravelly silt loam	GM-GC	A-2	0	0-15	30-60	25-50	20-45	15-35	25-30	5-10
	36-40	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kram	0-3	Very gravelly loam	GM	A-1, A-2	0	0-25	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-25	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3019:												
Tecomar	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hopeka	0-9	Very gravelly loam	GC	A-2	0	0-15	40-55	25-50	25-45	20-35	25-35	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Ekim	0-9	Gravelly silt loam	GC, CL	A-6	0	0-10	55-80	50-75	45-70	40-65	30-35	10-15
	9-25	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-50	25-40	30-40	10-15
	25-33	Unweathered bedrock			0	0	0	0	0	0	---	NP
3020:												
Amtoft	0-3	Extremely gravelly loam	GM, GM-GC	A-2	5-10	0-20	25-40	15-30	15-25	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tecomar	0-7	Extremely stony silt loam	GC	A-2	25-45	15-45	35-55	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3021: Rock Outcrop.												
Amtoft	0-3	Extremely stony loam	GM, GM-GC	A-2	25-50	10-30	25-40	20-35	15-30	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tecomar	0-7	Extremely stony silt loam	GC	A-2	25-45	15-45	35-55	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
3023:												
Amtoft	0-3	Extremely gravelly loam	GM, GM-GC	A-2	5-10	0-20	25-40	15-30	15-25	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Jericho	0-7	Gravelly sandy loam	GM, SM	A-1, A-2	0	0-15	55-80	50-75	30-55	15-35	15-20	NP-5
	7-17	Very gravelly sandy loam, very gravelly fine sandy loam	GM	A-1	0	0-25	40-55	30-50	20-40	10-25	15-20	NP-5
	17-31	Indurated			0	0	0	0	0	0	---	NP
	31-60	Gravelly sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	0-15	45-85	35-75	20-55	10-30	0-14	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3023 (con.):												
Tecomar	0-7	Extremely stony silt loam	GC	A-2	25-45	15-45	35-55	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP
3025:												
Amtoft	0-3	Extremely gravelly loam	GM, GM-GC	A-2	0-5	0-20	25-40	15-30	15-25	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	0-5	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Arcia	0-9	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	85-100	75-90	55-85	25-35	5-15
	9-17	Clay loam, gravelly clay loam	CL	A-6, A-7	0	0-10	65-100	60-100	55-90	50-80	35-45	15-25
	17-32	Cobbly clay, gravelly clay, clay	GC, CL, CH	A-7	0	0-25	60-95	55-90	45-85	40-75	45-65	30-45
	32-42	Unweathered bedrock			0	0	0	0	0	0	---	NP
Kram	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
3030:												
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3030 (con.):												
Izar	0-5	Very gravelly loam	GC	A-2	0	0-25	30-55	25-50	20-45	15-35	25-35	10-15
	5-11	Very gravelly loam, extremely gravelly loam	GC	A-2	0	0-25	20-55	15-50	15-45	10-35	25-35	10-15
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
Jackpot	0-4	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	4-11	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
3031:												
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
Hundraw	0-2	Gravelly fine sandy loam	SM, SC-SM, GM-GC, GM	A-1, A-2, A-4	0	0	60-80	55-75	40-60	20-40	20-30	NP-10
	2-5	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	5-9	Weathered bedrock			0	0	0	0	0	0	---	NP
Jackpot	0-4	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	4-11	Sandy loam	SM	A-2, A-5	0	0	80-100	75-100	45-70	25-40	40-60	NP-5
	11-15	Unweathered bedrock			0	0	0	0	0	0	---	NP
3032:												
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3032 (con.):												
Anowell	0-1	Gravelly loam	GC, CL	A-6	0	0	65-85	55-75	50-70	35-60	25-35	10-15
	1-6	Gravelly clay loam, clay loam, gravelly loam	GC, CL	A-6	0	0	65-90	55-85	50-80	35-75	30-40	15-20
	6-10	Weathered bedrock			0	0	0	0	0	0	---	NP
3033:												
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-33	Weathered bedrock			0	0	0	0	0	0	---	NP
Hundraw	0-3	Gravelly loam	SM, SC-SM, GM, GM-GC	A-4	0	0	60-80	55-75	50-65	35-50	20-30	NP-10
	3-8	Fine sandy loam, loam	SM, SC-SM, ML, CL-ML	A-2, A-4	0	0	80-95	75-90	55-80	30-70	20-30	NP-10
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
Zapa	0-12	Very gravelly silt loam	GM, GM-GC	A-2	0	0-15	40-55	35-50	30-45	25-35	25-35	5-10
	12-25	Very gravelly coarse sandy loam, very gravelly sandy loam, very gravelly silt loam	GM, GM-GC	A-1, A-2	0	0-15	35-60	25-50	15-45	10-35	20-30	NP-10
	25-42	Cemented			0	0	0	0	0	0	---	NP
	42-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0	0-30	15-30	10-25	5-15	0-10	20-30	NP-10
3036:												
Cobre	0-6	Silt loam	ML	A-4	0	0	85-100	75-100	70-95	55-85	30-40	5-10
	6-13	Silt loam, loam, very fine sandy loam	ML, SM	A-4	0	0	85-100	75-100	65-95	45-85	30-40	5-10
	13-29	Loam, fine sandy loam, sandy loam	ML, SM	A-4	0	0	85-100	75-100	45-90	35-70	25-30	NP-5
	29-62	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3036 (con.):												
Enko	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	60-75	35-50	20-30	5-10
	3-15	Loam, sandy loam, fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	60-90	35-70	20-30	5-10
	15-26	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-4	0	0	95-100	85-100	75-90	40-65	20-25	5-10
	26-62	Sandy loam, fine sandy loam, loam	SC-SM, CL-ML	A-2, A-4	0	0	85-100	75-100	60-90	30-65	20-25	5-10
3040:												
Player	0-10	Gravelly loam	GC, CL	A-6	0	0-15	65-80	60-75	50-70	35-60	25-35	10-15
	10-47	Extremely gravelly clay, very gravelly clay	GC	A-2	0	10-25	25-50	20-45	15-40	10-35	50-65	30-40
	47-62	Very gravelly clay loam, very gravelly clay	GC	A-2	0	0-15	40-55	35-50	30-50	25-35	40-45	20-25
McIvey	0-13	Gravelly loam	GC, SC	A-6	0	0-10	60-85	50-75	45-70	35-50	30-40	10-15
	13-18	Very gravelly loam	GC	A-2, A-6	0	0-10	50-60	45-55	35-50	25-45	30-40	10-15
	18-23	Very gravelly clay loam, gravelly clay loam	GC, SC, CL	A-7	0	0-10	55-85	45-75	40-70	35-55	40-45	15-20
	23-62	Very gravelly clay, very cobbly clay, extremely cobbly clay	GC	A-2, A-7	0	0-55	45-60	35-50	35-45	30-45	45-55	20-30
Hogmalat	0-3	Very gravelly loam	GM-GC	A-2	0	0-10	45-55	25-50	20-50	15-35	20-30	5-10
	3-10	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6	0	0	45-55	35-50	30-50	25-40	30-40	15-25
	10-14	Unweathered bedrock			0	0	0	0	0	0	---	NP
3070:												
Arva	0-15	Gravelly loam	GC, SC	A-6	0	0	60-85	50-75	45-65	35-50	30-35	10-15
	15-44	Gravelly clay, clay	GC, CH, CL, SC	A-7	0	0-10	60-85	50-85	45-80	45-65	45-60	25-35
	44-54	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3070 (con.):												
Chen	0-6	Very gravelly loam	GC	A-2	0	0-15	50-65	35-50	30-45	25-35	30-35	10-15
	6-12	Very gravelly clay, extremely gravelly clay, very cobbly clay	GC	A-2, A-7	0-5	0-45	35-50	25-45	25-45	20-40	50-60	25-35
	12-16	Unweathered bedrock			0	0	0	0	0	0	---	NP
Sumine	0-9	Very gravelly loam	GM-GC	A-2, A-4	0	10-15	50-65	45-60	40-50	30-40	20-30	5-10
	9-26	Very gravelly clay loam, very cobbly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-5	15-40	45-70	35-65	30-50	25-45	35-45	15-25
	26-30	Unweathered bedrock			0	0	0	0	0	0	---	NP
3080:												
Fenelon	0-6	Gravelly silt loam	CL, GC	A-6	0	0	60-85	50-75	45-70	40-65	30-35	10-15
	6-37	Gravelly clay loam, gravelly silty clay loam	CL, GC	A-6, A-7	0	0-15	60-85	50-75	45-75	45-70	35-45	15-20
	37-47	Weathered bedrock			0	0	0	0	0	0	---	NP
Lerrow Variant	0-4	Gravelly loam	GC, SC	A-6	0	0	60-80	55-75	50-70	35-50	30-35	10-15
	4-27	Gravelly clay, clay	CH	A-7	0	0	60-95	55-90	50-85	50-80	50-60	30-35
	27-51	Gravelly clay	CH	A-7	0	0	60-95	55-90	50-85	50-80	50-60	30-35
	51-61	Extremely gravelly sandy loam	GP-GC	A-2	0	15-25	20-35	10-25	10-20	5-10	25-30	5-10
Cotant	0-3	Gravelly clay loam	GC, CL	A-6, A-7	0	0	60-85	50-70	40-65	35-60	35-45	15-20
	3-12	Clay	CH, CL	A-7	0	0	90-100	75-100	60-100	50-95	45-65	25-40
	12-16	Weathered bedrock			0	0	0	0	0	0	---	NP
3081:												
Fenelon	0-6	Gravelly silt loam	CL, GC	A-6	0	0	60-85	50-75	45-70	40-65	30-35	10-15
	6-37	Gravelly clay loam, gravelly silty clay loam	CL, GC	A-6, A-7	0	0-15	60-85	50-75	45-75	45-70	35-45	15-20
	37-47	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3081 (con.):												
Gochea----------	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
3100:												
Kleckner--------	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	90-100	80-100	70-100	60-90	25-35	5-15
	7-11	Gravelly clay	GC, SC, CL, CH	A-7	0	0-5	60-85	50-70	45-65	40-60	45-55	25-35
	11-42	Very cobbly clay, very cobbly clay loam, very gravelly clay	GC	A-2, A-7	0	10-45	45-70	30-60	30-55	25-45	40-55	25-35
	42-60	Extremely gravelly sandy loam, very gravelly sandy loam	GP-GM, GM	A-1	0	0-15	30-45	20-35	15-25	5-15	0-14	NP
Stampede--------	0-5	Gravelly loam	CL	A-6	0	0	70-80	65-75	60-70	50-65	25-35	10-15
	5-27	Clay, silty clay	CH	A-7	0	0-10	90-100	85-95	80-90	70-85	50-60	30-40
	27-60	Indurated			0	0	0	0	0	0	---	NP
4000:												
Wicup-----------	0-10	Silty clay loam	CL, ML	A-7, A-6	0	0	80-100	75-95	70-95	65-90	35-50	15-20
	10-18	Silty clay loam, silty clay, gravelly clay loam	CL, CH	A-7	0	0	65-100	60-95	60-90	50-85	45-60	20-30
	18-30	Silty clay loam, silty clay, gravelly clay loam	CL, CH	A-7	0	0-10	65-100	60-95	60-90	50-85	45-60	20-30
	30-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Anowell---------	0-2	Gravelly loam	GC, CL	A-6	0	0	65-85	55-75	50-70	35-60	25-35	10-15
	2-6	Gravelly clay loam, clay loam, gravelly loam	GC, CL	A-6	0	0	65-90	55-85	50-80	35-75	30-40	15-20
	6-10	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4000 (con.):												
Kzin	0-3	Very gravelly loam	GC	A-2, A-6	0	0-15	40-50	35-50	30-45	25-40	25-35	10-15
	3-8	Very gravelly sandy loam, very gravelly loam	GC, GM-GC	A-2, A-4, A-6	0	0-15	40-50	35-50	25-45	15-40	25-35	5-15
	8-12	Weathered bedrock			0	0	0	0	0	0	---	NP
4001:												
Wicup	0-10	Silty clay loam	CL, ML	A-7, A-6	0	0	80-100	75-95	70-95	65-90	35-50	15-20
	10-18	Silty clay loam, silty clay, gravelly clay loam	CL, CH	A-7	0	0	65-100	60-95	60-90	50-85	45-60	20-30
	18-30	Silty clay loam, silty clay, gravelly clay loam	CL, CH	A-7	0	0-10	65-100	60-95	60-90	50-85	45-60	20-30
	30-61	Weathered bedrock			0	0	0	0	0	0	---	NP
Fenelon	0-6	Gravelly silt loam	CL, GC	A-6	0	0	60-85	50-75	45-70	40-65	30-35	10-15
	6-37	Gravelly clay loam, gravelly silty clay loam	CL, GC	A-6, A-7	0	0-15	60-85	50-75	45-75	45-70	35-45	15-20
	37-47	Weathered bedrock			0	0	0	0	0	0	---	NP
Akler	0-6	Loam	CL, SC	A-6	0	0-10	80-90	75-85	65-80	45-65	30-35	10-15
	6-18	Clay	CH	A-7	0	0	80-100	75-100	65-90	50-70	55-70	30-45
	18-22	Weathered bedrock			0	0	0	0	0	0	---	NP
4002:												
Wicup	0-10	Silty clay loam	CL, ML	A-7, A-6	0	0	80-100	75-95	70-95	65-90	35-50	15-20
	10-18	Silty clay loam, silty clay, gravelly clay loam	CL, CH	A-7	0	0	65-100	60-95	60-90	50-85	45-60	20-30
	18-30	Silty clay loam, silty clay, gravelly clay loam	CL, CH	A-7	0	0-10	65-100	60-95	60-90	50-85	45-60	20-30
	30-61	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4002 (con.):												
Gochea----------	0-11	Loam	CL-ML	A-4	0	0	80-100	75-95	60-75	50-65	20-30	5-10
	11-25	Gravelly clay loam, gravelly sandy clay loam, clay loam	GC, SC, CL	A-6, A-7	0	0	60-95	50-90	45-85	35-65	30-45	10-20
	25-53	Sandy loam, gravelly loam	ML, GM, SM	A-4, A-2	0	0	60-95	55-90	35-75	25-55	20-25	NP-5
	53-75	Very gravelly sand, extremely gravelly sand	GP	A-1	0	0	25-50	15-35	10-20	0-5	---	NP
Gumble----------	0-4	Gravelly sandy loam	SC-SM	A-1, A-2	0	0-10	60-70	50-60	30-40	15-25	25-30	5-10
	4-16	Clay, gravelly clay	CH, GC	A-7	0	0-15	65-100	60-90	55-85	45-70	50-65	25-40
	16-20	Weathered bedrock			0	0	0	0	0	0	---	NP
4020:												
Akler----------	0-7	Very gravelly loam	GC	A-2	0	0-10	40-55	35-50	30-40	25-30	30-35	10-15
	7-18	Gravelly clay	GC, CH	A-7	0	0-10	55-80	50-75	40-70	40-70	55-70	30-45
	18-22	Weathered bedrock			0	0	0	0	0	0	---	NP
Cleavage--------	0-7	Very gravelly loam	GM-GC, GC	A-2, A-4, A-6	0	0-10	50-70	30-50	25-45	20-40	25-35	5-15
	7-18	Very cobbly clay loam, extremely gravelly clay loam, very gravelly loam	GC	A-2	0-5	0-45	40-55	30-45	25-45	20-35	30-45	10-20
	18-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Elocin----------	0-6	Gravelly silt loam	CL, GC	A-6	0	0	55-80	50-75	45-70	35-60	25-35	10-15
	6-10	Silt loam, silty clay loam	CL	A-6, A-7	0	0	80-95	75-90	70-85	60-80	35-45	15-25
	10-25	Very gravelly clay, very cobbly clay	GC	A-2	0	0-45	30-55	25-50	25-40	20-35	55-65	35-45
	25-36	Gravelly clay, very gravelly clay	GC, CH	A-7	0	0-15	55-80	40-75	35-75	35-70	55-65	35-45
	36-60	Loam, gravelly loam, gravelly sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2	0	0-10	70-95	60-90	40-80	25-60	15-30	NP-10

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4040:												
Kram	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Amtoft	0-3	Extremely gravelly loam	GM, GM-GC	A-2	0-5	0-20	25-40	15-30	15-25	10-25	25-35	5-10
	3-12	Extremely cobbly loam, extremely flaggy loam, extremely gravelly loam	GM, GM-GC	A-2	5-10	40-60	30-50	20-40	15-35	10-30	25-35	5-10
	12-22	Unweathered bedrock			0	0	0	0	0	0	---	NP
Nirac	0-10	Gravelly silt loam	ML	A-4	0	0-5	70-85	60-75	55-70	50-65	20-25	NP-5
	10-36	Very gravelly loam, very gravelly silt loam	GM-GC	A-2	0	0-15	30-60	25-50	20-45	15-35	25-30	5-10
	36-40	Unweathered bedrock			0	0	0	0	0	0	---	NP
4041:												
Kram	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Tecomar	0-7	Extremely cobbly silt loam	GC	A-2	0-15	30-60	25-45	20-40	15-40	10-35	25-35	10-15
	7-19	Extremely stony silt loam, extremely cobbly silt loam, very cobbly silt loam	GC	A-2, A-6	0-30	30-60	25-60	20-45	15-40	10-40	25-35	10-15
	19-29	Unweathered bedrock			0	0	0	0	0	0	---	NP

TABLE 9.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4042:												
Kram----------	0-3	Very gravelly loam	GM	A-1, A-2	0	0-15	50-60	35-50	25-40	20-30	15-25	NP-5
	3-9	Very gravelly loam, very gravelly very fine sandy loam, extremely gravelly loam	GM	A-1, A-2	0	0-15	25-60	15-55	15-45	10-30	15-25	NP-5
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Hooplite--------	0-6	Very gravelly loam	GM-GC	A-2	0	0-10	45-60	35-50	30-45	20-35	20-30	5-10
	6-9	Very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	0-15	45-60	35-50	30-45	25-40	30-40	10-15
	9-13	Unweathered bedrock			0	0	0	0	0	0	---	NP
Yuko----------	0-4	Gravelly sandy loam	SM, GM	A-2, A-1	0	0-10	60-80	50-75	30-55	15-30	15-25	NP-5
	4-8	Clay loam, silty clay loam	CL	A-7	0	0	90-100	80-100	75-95	70-85	40-45	15-20
	8-10	Clay, clay loam	CL	A-7	0	0	90-100	85-100	75-100	65-85	40-50	15-25
	10-14	Weathered bedrock			0	0	0	0	0	0	---	NP

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodability index" apply only to the surface layer)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
10:												
Yuko	0-4	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			
Akler	0-6	18-25	1.20-1.40	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.43	0.43	2	6	48
	6-18	50-60	1.20-1.35	0.06-0.20	0.07-0.11	High	0.5-1.0	0.28	0.32			
	18-22	---	---	0.00-0.01	---		---	---	---			
20:												
Donna	0-11	30-40	1.10-1.25	0.20-0.60	0.08-0.10	Low	1.0-3.0	0.10	0.43	2	8	---
	11-21	60-70	1.15-1.25	0.00-0.06	0.13-0.15	High	0.5-0.8	0.17	0.37			
	21-41	---	---	0.00-0.01	---		---	---	---			
	41-60	15-25	1.50-1.60	2.00-6.00	0.06-0.09	Low	0.0-0.5	0.15	0.43			
Igdell	0-2	27-35	1.05-1.20	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.37	0.43	2	7	38
	2-31	45-60	1.20-1.35	0.06-0.20	0.07-0.14	High	0.5-1.0	0.32	0.49			
	31-37	20-35	1.25-1.45	0.20-0.60	0.10-0.18	Moderate	0.5-1.0	0.32	0.43			
	37-45	---	---	0.00-0.01	---		---	---	---			
Vanwyper	0-8	18-25	1.15-1.30	0.60-2.00	0.10-0.13	Moderate	1.0-2.0	0.20	0.37	2	7	38
	8-35	35-55	1.25-1.45	0.06-0.20	0.06-0.10	Moderate	0.0-0.5	0.10	0.43			
	35-39	---	---	0.00-0.01	---		---	---	---			
21:												
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
Stampede	0-5	20-25	1.30-1.40	0.60-2.00	0.16-0.19	Moderate	1.0-3.0	0.43	0.49	2	7	38
	5-27	40-55	1.20-1.35	0.00-0.06	0.14-0.16	High	0.5-1.0	0.28	0.32			
	27-60	---	---	0.00-0.01	---		---	---	---			
22:												
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
Igdell	0-2	27-35	1.05-1.20	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.37	0.43	2	7	38
	2-31	45-60	1.20-1.35	0.06-0.20	0.07-0.14	High	0.5-1.0	0.32	0.49			
	31-37	20-35	1.25-1.45	0.20-0.60	0.10-0.18	Moderate	0.5-1.0	0.32	0.43			
	37-45	---	---	0.00-0.01	---		---	---	---			
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
23:												
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
23 (con.):												
Kleckner	0-7	15-25	1.10-1.30	0.60-2.00	0.11-0.17	Moderate	2.0-3.0	0.20	0.37	5	6	48
	7-33	35-50	1.25-1.45	0.06-0.20	0.08-0.12	Moderate	1.0-2.0	0.05	0.37			
	33-42	35-50	1.25-1.45	0.06-0.20	0.08-0.14	Moderate	0.5-1.0	0.05	0.37			
	42-60	10-20	1.20-1.40	0.60-2.00	0.12-0.15	Moderate	0.5-0.8	0.24	0.37			
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
31:												
Welch	0-14	15-20	1.25-1.40	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.32	0.32	5	5	56
	14-62	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-3.0	0.28	0.55			
Crooked Creek	0-7	30-40	1.20-1.40	0.20-0.60	0.20-0.22	Moderate	2.0-4.0	0.24	0.24	4	4	86
	7-40	35-50	1.35-1.50	0.06-0.20	0.16-0.22	High	2.0-4.0	0.24	0.24			
	40-60	3-10	1.50-1.70	>20.00	0.03-0.06	Low	0.8-2.0	0.05	0.15			
32:												
Welch	0-14	30-35	1.20-1.35	0.20-0.60	0.19-0.21	Moderate	2.0-4.0	0.32	0.32	5	7	38
	14-62	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-3.0	0.28	0.55			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	7	38
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.5-1.0	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
34:												
Welch	0-14	15-20	1.25-1.40	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.32	0.32	5	5	56
	14-62	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-4.0	0.28	0.32			
Crooked Creek	0-18	30-40	1.20-1.40	0.06-0.20	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4	86
	18-61	35-50	1.25-1.45	0.06-0.20	0.15-0.16	High	2.0-4.0	0.28	0.24			
35:												
Welch	0-5	15-20	1.25-1.40	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.32	0.32	4	5	56
	5-41	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-3.0	0.28	0.32			
	41-61	5-14	1.50-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.10	0.17			
Welch	0-5	15-20	1.25-1.40	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.32	0.32	4	5	56
	5-41	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-3.0	0.28	0.32			
	41-61	5-14	1.50-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.10	0.17			
Gochea	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
40:												
McIvey	0-13	20-27	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-5.0	0.15	0.43	5	7	38
	13-18	20-27	1.15-1.35	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.15	0.37			
	18-23	30-40	1.25-1.45	0.20-0.60	0.12-0.17	Moderate	0.5-1.0	0.10	0.43			
	23-62	40-50	1.25-1.40	0.00-0.06	0.07-0.10	Moderate	0.5-1.0	0.05	0.37			
Quarz	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
60:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Arva	0-15	20-27	1.05-1.20	0.60-2.00	0.10-0.15	Moderate	3.0-5.0	0.17	0.32	4	7	38
	15-44	45-60	1.25-1.40	0.00-0.06	0.09-0.14	High	1.0-3.0	0.10	0.37			
	44-54	---	---	0.00-0.01	---		---	---	---			
Lerrow	0-10	20-25	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-3.0	0.20	0.37	3	7	38
	10-16	30-40	1.20-1.40	0.20-0.60	0.16-0.19	Moderate	1.0-2.0	0.20	0.32			
	16-24	40-55	1.25-1.40	0.06-0.20	0.11-0.14	High	0.5-1.0	0.15	0.37			
	24-28	---	---	0.00-0.01	---		---	---	---			
70:												
Stampede	0-5	20-25	1.30-1.40	0.60-2.00	0.16-0.19	Moderate	1.0-3.0	0.43	0.49	2	7	38
	5-27	40-55	1.20-1.35	0.00-0.06	0.14-0.16	High	0.5-1.0	0.28	0.32			
	27-60	---	---	0.00-0.01	---		---	---	---			
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
72:												
Stampede	0-5	20-25	1.30-1.40	0.60-2.00	0.16-0.19	Moderate	1.0-3.0	0.43	0.49	2	7	38
	5-27	40-55	1.20-1.35	0.00-0.06	0.14-0.16	High	0.5-1.0	0.28	0.32			
	27-60	---	---	0.00-0.01	---		---	---	---			
Simon	0-13	10-20	1.15-1.35	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.43	5	5	56
	13-43	27-35	1.25-1.45	0.20-0.60	0.17-0.20	Moderate	0.5-1.0	0.28	0.37			
	43-60	20-26	1.35-1.50	0.60-2.00	0.11-0.15	Moderate	0.0-0.5	0.28	0.55			
Arva	0-15	20-27	1.05-1.20	0.60-2.00	0.10-0.15	Moderate	3.0-5.0	0.17	0.32	4	7	38
	15-44	45-60	1.25-1.40	0.00-0.06	0.09-0.14	High	1.0-3.0	0.10	0.37			
	44-54	---	---	0.00-0.01	---		---	---	---			
80:												
Wieland	0-8	8-22	1.25-1.45	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.49	0.55	5	5	56
	8-22	40-55	1.25-1.40	0.06-0.20	0.09-0.13	High	0.5-1.0	0.28	0.43			
	22-28	27-35	1.45-1.60	0.06-0.20	0.10-0.17	Moderate	0.0-0.5	0.43	0.49			
	28-64	10-20	1.45-1.65	0.60-2.00	0.09-0.16	Low	0.0-0.5	0.49	0.64			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
81:												
Wieland	0-8	20-25	1.10-1.25	0.60-2.00	0.10-0.15	Low	1.0-2.0	0.43	0.49	4	7	38
	8-22	45-50	1.15-1.35	0.06-0.20	0.09-0.13	High	0.5-2.0	0.24	0.37			
	22-44	10-15	1.50-1.70	0.06-0.20	0.11-0.14	Low	0.5-1.0	0.49	0.64			
	44-64	2-8	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.28	0.64			
Gance	0-5	20-25	1.35-1.55	0.60-2.00	0.05-0.11	Low	1.0-2.0	0.15	0.55	5	7	38
	5-20	35-55	1.35-1.50	0.06-0.20	0.04-0.10	Moderate	0.0-0.5	0.10	0.37			
	20-60	10-20	1.50-1.70	0.20-2.00	0.02-0.11	Low	0.0-0.5	0.05	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
81 (con.):												
Nevador	0-6	8-18	1.35-1.50	0.20-0.60	0.14-0.16	Low	1.0-2.0	0.43	0.43	5	5	56
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.24			
82:												
Wieland	0-8	20-25	1.10-1.25	0.60-2.00	0.10-0.15	Low	1.0-2.0	0.43	0.49	4	7	38
	8-22	45-50	1.15-1.35	0.06-0.20	0.09-0.13	High	0.5-2.0	0.24	0.37			
	22-44	10-15	1.50-1.70	0.06-0.20	0.11-0.14	Low	0.5-1.0	0.49	0.64			
	44-64	2-8	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.28	0.64			
Hunnton	0-8	20-27	1.10-1.25	0.60-2.00	0.09-0.12	Moderate	1.0-2.0	0.43	0.43	2	7	38
	8-22	45-55	1.20-1.40	0.06-0.20	0.10-0.16	High	0.5-1.0	0.28	0.37			
	22-36	---	---	0.00-0.01	---		---	---	---			
	36-60	2-10	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.20	0.24			
Hunewill	0-6	12-20	1.30-1.45	0.60-2.00	0.11-0.14	Low	1.0-2.0	0.24	0.43	2	6	48
	6-20	25-35	1.30-1.50	0.20-0.60	0.12-0.15	Low	0.5-1.0	0.10	0.37			
	20-61	0-2	1.50-1.70	6.00-20.00	0.04-0.05	Low	0.0-0.5	0.02	0.15			
83:												
Wieland	0-8	20-25	1.10-1.25	0.60-2.00	0.10-0.15	Low	1.0-2.0	0.43	0.49	4	7	38
	8-22	45-50	1.15-1.35	0.06-0.20	0.09-0.13	High	0.5-2.0	0.24	0.37			
	22-44	10-15	1.50-1.70	0.06-0.20	0.11-0.14	Low	0.5-1.0	0.49	0.64			
	44-64	2-8	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.28	0.64			
Nevador	0-6	8-18	1.35-1.50	0.20-0.60	0.14-0.16	Low	1.0-2.0	0.43	0.43	5	5	56
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.24			
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
90:												
Hunnton	0-8	20-27	1.10-1.25	0.60-2.00	0.09-0.12	Moderate	1.0-2.0	0.43	0.43	2	7	38
	8-22	45-55	1.20-1.40	0.06-0.20	0.10-0.16	High	0.5-1.0	0.28	0.37			
	22-36	---	---	0.00-0.01	---		---	---	---			
	36-60	2-10	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.20	0.24			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Bilbo	0-2	25-35	1.15-1.30	0.20-0.60	0.06-0.11	Moderate	1.0-3.0	0.05	0.37	3	7	38
	2-18	35-50	1.35-1.50	0.06-0.20	0.07-0.09	Moderate	1.0-2.0	0.05	0.37			
	18-32	35-50	1.35-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.02	0.37			
	32-60	5-15	1.45-1.65	6.00-20.00	0.03-0.06	Low	0.5-1.0	0.05	0.20			
93:												
Hunnton	0-8	10-25	1.20-1.25	0.60-2.00	0.14-0.18	Low	1.0-2.0	0.49	0.55	2	5	56
	8-14	20-30	1.50-1.55	0.20-0.60	0.15-0.21	Moderate	0.5-1.0	0.49	0.49			
	14-22	40-55	1.20-1.25	0.06-0.20	0.10-0.16	High	0.0-0.5	0.28	0.37			
	22-36	---	---	0.00-0.01	---		---	---	---			
	36-60	2-10	1.55-1.65	0.60-6.00	0.02-0.05	Low	0.0-0.5	0.05	0.20			
Wieland	0-8	8-22	1.25-1.45	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.49	0.55	5	5	56
	8-22	40-55	1.25-1.40	0.06-0.20	0.09-0.13	High	0.5-1.0	0.28	0.43			
	22-28	27-35	1.45-1.60	0.06-0.20	0.10-0.17	Moderate	0.0-0.5	0.43	0.49			
	28-64	10-20	1.45-1.65	0.60-2.00	0.09-0.16	Low	0.0-0.5	0.49	0.64			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
94:												
Hunnton---------	0-8	10-25	1.20-1.25	0.60-2.00	0.14-0.18	Low	1.0-2.0	0.49	0.55	2	5	56
	8-14	20-30	1.50-1.55	0.20-0.60	0.15-0.21	Moderate	0.5-1.0	0.49	0.49			
	14-22	40-55	1.20-1.25	0.06-0.20	0.10-0.16	High	0.0-0.5	0.28	0.37			
	22-36	---	---	0.00-0.01	---		---	---	---			
	36-60	2-10	1.55-1.65	0.60-6.00	0.02-0.05	Low	0.0-0.5	0.05	0.20			
Chiara----------	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Wieland---------	0-8	8-22	1.25-1.45	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.49	0.55	5	5	56
	8-22	40-55	1.25-1.40	0.06-0.20	0.09-0.13	High	0.5-1.0	0.28	0.43			
	22-28	27-35	1.45-1.60	0.06-0.20	0.10-0.17	Moderate	0.0-0.5	0.43	0.49			
	28-64	10-20	1.45-1.65	0.60-2.00	0.09-0.16	Low	0.0-0.5	0.49	0.64			
120:												
Peeko----------	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Dewar----------	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Puett----------	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
121:												
Peeko----------	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Dewar----------	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Peeko----------	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
123:												
Peeko----------	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Oupico----------	0-4	10-15	1.35-1.50	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.32	0.32	2	4L	86
	4-25	8-18	1.40-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.5	0.24	0.37			
	25-49	---	---	0.00-0.01	---		---	---	---			
	49-62	5-10	1.55-1.75	0.20-0.60	0.12-0.14	Low	0.0-0.5	0.32	0.37			
Dewar----------	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
124:												
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Gance	0-5	20-25	1.35-1.55	0.60-2.00	0.05-0.11	Low	1.0-2.0	0.15	0.55	5	7	38
	5-20	35-55	1.35-1.50	0.06-0.20	0.04-0.10	Moderate	0.0-0.5	0.10	0.37			
	20-60	10-20	1.50-1.70	0.20-2.00	0.02-0.11	Low	0.0-0.5	0.05	0.32			
125:												
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
126:												
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	---	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	---	0.02	0.15			
127:												
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
129:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
130:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Wieland	0-8	8-22	1.25-1.45	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.49	0.55	5	5	56
	8-22	40-55	1.25-1.40	0.06-0.20	0.09-0.13	High	0.5-1.0	0.28	0.43			
	22-28	27-35	1.45-1.60	0.06-0.20	0.10-0.17	Moderate	0.0-0.5	0.43	0.49			
	28-64	10-20	1.45-1.65	0.60-2.00	0.09-0.16	Low	0.0-0.5	0.49	0.64			
Bilbo	0-2	25-35	1.15-1.30	0.20-0.60	0.06-0.11	Moderate	1.0-3.0	0.05	0.37	3	7	38
	2-18	35-50	1.35-1.50	0.06-0.20	0.07-0.09	Moderate	1.0-2.0	0.05	0.37			
	18-32	35-50	1.35-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.02	0.37			
	32-60	5-15	1.45-1.65	6.00-20.00	0.03-0.06	Low	0.5-1.0	0.05	0.20			
131:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Hunnton	0-8	20-27	1.10-1.25	0.60-2.00	0.09-0.12	Moderate	1.0-2.0	0.43	0.43	2	7	38
	8-22	45-55	1.20-1.40	0.06-0.20	0.10-0.16	High	0.5-1.0	0.28	0.37			
	22-36	---	---	0.00-0.01	---		---	---	---			
	36-60	2-10	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.20	0.24			
Gance	0-5	20-25	1.35-1.55	0.60-2.00	0.05-0.11	Low	1.0-2.0	0.15	0.55	5	7	38
	5-20	35-55	1.35-1.50	0.06-0.20	0.04-0.10	Moderate	0.0-0.5	0.10	0.37			
	20-60	10-20	1.50-1.70	0.20-2.00	0.02-0.11	Low	0.0-0.5	0.05	0.32			
132:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Bilbo	0-2	25-35	1.15-1.30	0.20-0.60	0.06-0.11	Moderate	1.0-3.0	0.05	0.37	3	7	38
	2-18	35-50	1.35-1.50	0.06-0.20	0.07-0.09	Moderate	1.0-2.0	0.05	0.37			
	18-32	35-50	1.35-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.02	0.37			
	32-60	5-15	1.45-1.65	6.00-20.00	0.03-0.06	Low	0.5-1.0	0.05	0.20			
133:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Hunnton	0-8	20-27	1.10-1.25	0.60-2.00	0.09-0.12	Moderate	1.0-2.0	0.43	0.43	2	7	38
	8-22	45-55	1.20-1.40	0.06-0.20	0.10-0.16	High	0.5-1.0	0.28	0.37			
	22-36	---	---	0.00-0.01	---		---	---	---			
	36-60	2-10	1.55-1.75	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.20	0.24			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
135:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-30	---	---	0.00-0.01	---		---	---	---			
	30-60	---	---	0.00-0.20	---		---	---	---			
Yuko	0-4	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			
136:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Nevador	0-6	8-18	1.35-1.50	0.20-0.60	0.14-0.16	Low	1.0-2.0	0.43	0.43	5	5	56
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.24			
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			
137:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Gochea	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
138:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-30	---	---	0.00-0.01	---		---	---	---			
	30-60	---	---	0.00-0.20	---		---	---	---			
Jackpot	0-4	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	2.0-3.0	0.20	0.24	2	3	86
	4-11	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	0.5-2.0	0.20	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-30	---	---	0.00-0.01	---		---	---	---			
	30-60	---	---	0.00-0.20	---		---	---	---			
139:												
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Yuko	0-4	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
139 (con.):												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
140:												
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Wieland	0-8	8-22	1.25-1.45	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.49	0.55	5	5	56
	8-22	40-55	1.25-1.40	0.06-0.20	0.09-0.13	High	0.5-1.0	0.28	0.43			
	22-28	27-35	1.45-1.60	0.06-0.20	0.10-0.17	Moderate	0.0-0.5	0.43	0.49			
	28-64	10-20	1.45-1.65	0.60-2.00	0.09-0.16	Low	0.0-0.5	0.49	0.64			
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
141:												
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.5-1.0	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
144:												
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
150:												
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Tusel	0-20	10-20	1.20-1.40	0.60-2.00	0.06-0.09	Low	2.0-5.0	0.15	0.43	3	8	---
	20-42	25-35	1.25-1.45	0.20-0.60	0.08-0.11	Moderate	1.0-3.0	0.20	0.64			
	42-52	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
151:												
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Soughe	0-5	10-20	1.35-1.50	2.00-6.00	0.05-0.07	Low	1.0-2.0	0.10	0.20	1	5	56
	5-14	25-35	1.20-1.40	0.20-0.60	0.08-0.11	Moderate	0.0-0.5	0.15	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
154:												
Rock Outcrop.												
Shalper	0-9	12-18	1.30-1.50	0.60-2.00	0.07-0.10	Low	2.0-4.0	0.10	0.37	1	5	56
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Contact	0-18	3-10	1.40-1.60	6.00-20.00	0.04-0.06	Low	2.0-3.0	0.05	0.10	5	3	86
	18-60	1-5	1.50-1.70	6.00-20.00	0.04-0.06	Low	0.5-2.0	0.05	0.10			
155:												
Rock Outcrop.												
Shalper	0-9	12-18	1.30-1.50	0.60-2.00	0.07-0.10	Low	2.0-4.0	0.10	0.37	1	5	56
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Pequop	0-10	12-23	1.25-1.45	0.60-2.00	0.10-0.15	Low	2.0-5.0	0.20	0.37	3	6	48
	10-60	20-35	1.40-1.60	0.60-2.00	0.07-0.08	Low	1.0-3.0	0.05	0.37			
156:												
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Yuko	0-2	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	2-6	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	6-8	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	8-12	---	---	0.00-0.01	---		---	---	---			
160:												
Dacker	0-7	15-25	1.30-1.50	0.60-2.00	0.18-0.20	Low	1.0-2.0	0.43	0.49	2	5	56
	7-11	27-35	1.25-1.45	0.20-0.60	0.16-0.19	Moderate	0.5-1.0	0.37	0.49			
	11-17	25-33	1.25-1.45	0.20-0.60	0.11-0.15	Moderate	0.0-0.5	0.49	0.64			
	17-22	18-25	1.25-1.45	0.60-2.00	0.09-0.19	Low	---	0.49	0.64			
	22-42	---	---	0.00-0.01	---		---	---	---			
Nevador	0-6	8-18	1.35-1.50	0.20-0.60	0.14-0.16	Low	1.0-2.0	0.43	0.43	5	5	56
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.24			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
161:												
Dacker	0-7	15-25	1.30-1.50	0.60-2.00	0.18-0.20	Low	1.0-2.0	0.43	0.49	2	5	56
	7-11	27-35	1.25-1.45	0.20-0.60	0.16-0.19	Moderate	0.5-1.0	0.37	0.49			
	11-17	25-33	1.25-1.45	0.20-0.60	0.11-0.15	Moderate	0.0-0.5	0.49	0.64			
	17-22	18-25	1.25-1.45	0.60-2.00	0.09-0.19	Low	---	0.49	0.64			
	22-38	---	---	0.00-0.01	---		---	---	---			
Yuko	0-4	10-20	1.25-1.45	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.17	0.55	2	7	38
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			
Wieland	0-8	8-22	1.25-1.45	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.49	0.55	5	5	56
	8-22	40-55	1.25-1.40	0.06-0.20	0.09-0.13	High	0.5-1.0	0.28	0.43			
	22-28	27-35	1.45-1.60	0.06-0.20	0.10-0.17	Moderate	0.0-0.5	0.43	0.49			
	28-64	10-20	1.45-1.65	0.60-2.00	0.09-0.16	Low	0.0-0.5	0.49	0.64			
163:												
Dacker	0-7	15-25	1.30-1.50	0.60-2.00	0.18-0.20	Low	1.0-2.0	0.43	0.49	2	5	56
	7-11	27-35	1.25-1.45	0.20-0.60	0.16-0.19	Moderate	0.5-1.0	0.37	0.49			
	11-17	25-33	1.25-1.45	0.20-0.60	0.11-0.15	Moderate	0.0-0.5	0.49	0.64			
	17-22	18-25	1.25-1.45	0.60-2.00	0.09-0.19	Low	---	0.49	0.64			
	22-38	---	---	0.00-0.01	---		---	---	---			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
170:												
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
Enko	0-3	10-18	1.35-1.50	0.60-2.00	0.15-0.17	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.8-2.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
171:												
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
Chiara	0-4	10-18	1.25-1.40	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.55	0.55	1	5	56
	4-14	10-18	1.35-1.55	0.60-2.00	0.16-0.19	Low	0.5-1.0	0.49	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
174:												
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
175:												
Wiffo	0-14	10-18	1.40-1.60	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.10	0.32	3	6	48
	14-53	8-15	1.55-1.70	2.00-6.00	0.04-0.06	Low	0.5-1.0	0.05	0.32			
	53-63	5-15	1.55-1.70	6.00-20.00	0.03-0.06	Low	0.0-0.5	0.05	0.32			
Nevador	0-6	8-18	1.35-1.50	0.20-0.60	0.14-0.16	Low	1.0-2.0	0.43	0.43	5	5	56
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.24			
180:												
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.18-0.21	Moderate	0.6-2.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.6-2.0	0.37	0.37			
Devilsgait	0-9	12-20	1.20-1.35	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.06-0.60	0.19-0.21	Moderate	0.5-2.0	0.37	0.37			
182:												
Sonoma	0-6	27-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	1.0-2.0	0.43	0.43	5	4L	86
	6-42	20-35	1.35-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.24	0.24			
	42-60	40-50	1.35-1.50	0.06-0.20	0.14-0.17	High	0.5-1.0	0.28	0.28			
Devilsgait	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.5-2.0	0.37	0.37			
183:												
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.19-0.21	Moderate	0.5-1.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.37	0.37			
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.5-2.0	0.37	0.37			
185:												
Sonoma	0-6	27-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	1.0-2.0	0.43	0.43	5	4L	86
	6-42	20-35	1.35-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.24	0.24			
	42-60	40-50	1.35-1.50	0.06-0.20	0.14-0.17	High	0.5-1.0	0.28	0.28			
Ocala Variant	0-5	30-40	1.35-1.50	0.20-0.60	0.19-0.21	High	0.5-1.0	0.37	0.37	5	4L	86
	5-61	45-60	1.30-1.50	0.00-0.06	0.16-0.20	High	0.0-0.5	0.37	0.37			
186:												
Sondoa	0-4	20-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.5-2.0	0.49	0.49	5	4L	86
	4-63	25-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.49	0.49			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
186 (con.):												
Ixian	0-12	20-27	1.40-1.60	0.60-2.00	0.19-0.21	Moderate	0.0-0.5	0.49	0.49	5	4L	86
	12-42	25-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	42-63	30-45	1.45-1.65	0.06-0.20	0.15-0.17	Moderate	0.0-0.5	0.32	0.32			
Ixian	0-12	30-40	1.35-1.55	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.37	0.37	5	4L	86
	12-42	25-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	42-63	30-45	1.45-1.65	0.06-0.20	0.15-0.17	Moderate	0.0-0.5	0.32	0.32			
187:												
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.5-2.0	0.37	0.37			
Deleplain	0-8	10-20	1.30-1.45	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.49	0.49	3	4L	86
	8-34	18-27	1.30-1.50	0.60-2.00	0.17-0.21	Moderate	0.5-2.0	0.55	0.64			
	34-51	5-10	1.50-1.70	6.00-20.00	0.05-0.07	Low	0.5-2.0	0.10	0.17			
	51-60	5-10	1.50-1.70	>20.00	0.03-0.05	Low	0.5-1.0	0.02	0.10			
Ocala	0-8	15-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.7-1.0	0.43	0.43	5	4L	86
	8-46	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	46-60	5-10	1.40-1.55	0.06-0.20	0.15-0.17	Low	0.0-0.5	0.32	0.49			
190:												
Forvic	0-13	30-40	1.15-1.35	0.20-0.60	0.12-0.15	Moderate	2.0-4.0	0.24	0.37	2	5	56
	13-20	50-59	1.20-1.35	0.06-0.20	0.12-0.15	High	1.0-2.0	0.20	0.28			
	20-22	50-59	1.20-1.35	0.06-0.20	0.08-0.10	High	0.5-1.0	0.15	0.37			
	22-30	---	---	---	---		---	---	---			
	30-34	---	---	---	---		---	---	---			
Igdell	0-2	27-35	1.05-1.20	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.37	0.43	2	7	38
	2-31	45-60	1.20-1.35	0.06-0.20	0.07-0.14	High	0.5-1.0	0.32	0.49			
	31-37	20-35	1.25-1.45	0.20-0.60	0.10-0.18	Moderate	0.5-1.0	0.32	0.43			
	37-45	---	---	0.00-0.01	---		---	---	---			
191:												
Forvic	0-13	30-40	1.15-1.35	0.20-0.60	0.12-0.15	Moderate	2.0-4.0	0.24	0.37	2	5	56
	13-20	50-59	1.20-1.35	0.06-0.20	0.12-0.15	High	1.0-2.0	0.20	0.28			
	20-22	50-59	1.20-1.35	0.06-0.20	0.08-0.10	High	0.5-1.0	0.15	0.37			
	22-30	---	---	---	---		---	---	---			
	30-34	---	---	---	---		---	---	---			
Chayson	0-3	15-25	1.10-1.30	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.28	0.32	2	5	56
	3-20	24-34	1.30-1.45	0.20-0.60	0.14-0.16	Moderate	1.0-3.0	0.32	0.37			
	20-36	24-34	1.30-1.45	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.24	0.32			
	36-60	---	---	---	---		---	---	---			
Igdell	0-2	27-35	1.05-1.20	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.37	0.43	2	7	38
	2-31	45-60	1.20-1.35	0.06-0.20	0.07-0.14	High	0.5-1.0	0.32	0.49			
	31-37	20-35	1.25-1.45	0.20-0.60	0.10-0.18	Moderate	0.5-1.0	0.32	0.43			
	37-45	---	---	0.00-0.01	---		---	---	---			
195:												
Chayson	0-3	15-25	1.10-1.30	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.28	0.32	2	5	56
	3-20	24-34	1.30-1.45	0.20-0.60	0.14-0.16	Moderate	1.0-3.0	0.32	0.37			
	20-36	24-34	1.30-1.45	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.24	0.32			
	36-60	---	---	---	---		---	---	---			
Igdell	0-2	27-35	1.05-1.20	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.37	0.43	2	7	38
	2-31	45-60	1.20-1.35	0.06-0.20	0.07-0.14	High	0.5-1.0	0.32	0.49			
	31-37	20-35	1.25-1.45	0.20-0.60	0.10-0.18	Moderate	0.5-1.0	0.32	0.43			
	37-45	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
211:												
Crooked Creek---	0-18	30-40	1.20-1.40	0.06-0.20	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4	86
	18-61	35-50	1.25-1.45	0.06-0.20	0.15-0.16	High	2.0-4.0	0.28	0.24			
Crooked Creek---	0-18	20-27	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.32	0.32	5	6	48
	18-61	35-50	1.15-1.25	0.06-0.20	0.15-0.17	High	1.0-2.0	0.24	0.24			
Welch-----------	0-14	27-40	1.20-1.35	0.20-0.60	0.19-0.21	Moderate	2.0-4.0	0.32	0.32	5	4	86
	14-62	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-4.0	0.28	0.32			
219:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Arcia-----------	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
220:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Arcia-----------	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
221:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
222:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Coser-----------	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
223:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Hapgood---------	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	7	38
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
224:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Graley----------	0-9	18-27	1.30-1.50	0.60-2.00	0.05-0.08	Low	2.0-4.0	0.05	0.43	1	8	---
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
Arcia-----------	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
225:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Rodie-----------	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
Lerrow----------	0-10	20-25	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-3.0	0.20	0.37	3	7	38
	10-16	30-40	1.20-1.40	0.20-0.60	0.16-0.19	Moderate	1.0-2.0	0.20	0.32			
	16-24	40-55	1.25-1.40	0.06-0.20	0.11-0.14	High	0.5-1.0	0.15	0.37			
	24-28	---	---	0.00-0.01	---		---	---	---			
226:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Quopant---------	0-5	10-15	1.20-1.40	2.00-6.00	0.06-0.08	Low	2.0-4.0	0.10	0.32	2	5	56
	5-14	18-30	1.15-1.30	0.20-0.60	0.08-0.11	Low	1.0-3.0	0.05	0.37			
	14-18	10-20	1.35-1.55	2.00-6.00	0.07-0.11	Low	0.5-1.0	0.17	0.17			
	18-22	---	---	0.00-0.01	---		---	---	---			
Rodie-----------	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
227:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Rodie-----------	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
228:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Rodie-----------	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
Shalper---------	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
229:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Shalper---------	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
232:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Quarz-----------	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			
235:												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
235 (con.):												
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
236:												
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
McIvey	0-13	20-27	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-5.0	0.15	0.43	5	7	38
	13-18	20-27	1.15-1.35	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.15	0.37			
	18-23	30-40	1.25-1.45	0.20-0.60	0.12-0.17	Moderate	0.5-1.0	0.10	0.43			
	23-62	40-50	1.25-1.40	0.00-0.06	0.07-0.10	Moderate	0.5-1.0	0.05	0.37			
237:												
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	7	38
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Keman	0-38	14-18	1.10-1.30	0.60-2.00	0.11-0.15	Low	3.0-7.0	0.15	0.37	5	6	48
	38-60	24-34	1.30-1.50	0.60-2.00	0.07-0.10	Moderate	0.5-1.0	0.10	0.43			
238:												
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Hapgood	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	8	---
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
Arcia	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
239:												
Rock Outcrop.												
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Tweener	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	7	38
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
240:												
Gumble	0-4	15-20	1.30-1.50	2.00-6.00	0.07-0.10	Low	1.0-2.0	0.15	0.37	2	4	86
	4-16	40-60	1.20-1.40	0.06-0.20	0.14-0.16	High	0.5-1.0	0.20	0.28			
	16-20	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
240 (con.):												
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
250:												
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			
Soughe	0-4	10-20	1.35-1.50	2.00-6.00	0.05-0.07	Low	1.0-2.0	0.10	0.20	1	5	56
	4-11	25-35	1.20-1.40	0.20-0.60	0.08-0.11	Moderate	0.0-0.5	0.15	0.49			
	11-15	---	---	0.00-0.01	---		---	---	---			
251:												
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
252:												
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			
Jackpot	0-4	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	2.0-3.0	0.20	0.24	2	3	86
	4-11	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	0.5-2.0	0.20	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Soughe	0-4	10-20	1.35-1.50	2.00-6.00	0.05-0.07	Low	1.0-2.0	0.10	0.20	1	5	56
	4-11	25-35	1.20-1.40	0.20-0.60	0.08-0.11	Moderate	0.0-0.5	0.15	0.49			
	11-15	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
253:												
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			
Jackpot	0-4	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	2.0-3.0	0.20	0.24	2	3	86
	4-11	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	0.5-2.0	0.20	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
260:												
Bancy	0-7	27-40	1.15-1.30	0.20-0.60	0.19-0.20	Moderate	1.0-2.0	0.37	0.43	1	4	86
	7-14	40-50	1.30-1.45	0.06-0.20	0.15-0.17	High	0.8-1.0	0.28	0.32			
	14-18	40-50	1.30-1.45	0.06-0.20	0.10-0.14	High	0.5-1.0	0.17	0.28			
	18-24	---	---	---	---		---	---	---			
	24-28	---	---	---	---		---	---	---			
Heckison	0-6	17-23	1.20-1.35	0.20-0.60	0.16-0.18	Low	2.0-3.0	0.43	0.49	2	6	48
	6-28	24-35	1.20-1.40	0.06-0.20	0.16-0.19	Moderate	1.0-2.0	0.32	0.37			
	28-33	10-20	1.25-1.45	0.60-2.00	0.09-0.17	Low	0.0-0.5	0.32	0.49			
	33-39	---	---	---	---		---	---	---			
	39-43	---	---	---	---		---	---	---			
270:												
Cameek	0-2	20-25	1.05-1.20	0.60-2.00	0.17-0.20	Moderate	2.0-4.0	0.43	0.55	1	6	48
	2-8	30-40	1.30-1.45	0.20-0.60	0.18-0.20	Moderate	1.0-3.0	0.32	0.43			
	8-19	40-60	1.15-1.35	0.06-0.20	0.12-0.16	High	0.5-1.0	0.15	0.37			
	19-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-15	1.40-1.55	2.00-6.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
Bilbo	0-2	25-35	1.15-1.30	0.20-0.60	0.06-0.11	Moderate	1.0-3.0	0.05	0.37	3	7	38
	2-18	35-50	1.35-1.50	0.06-0.20	0.07-0.09	Moderate	1.0-2.0	0.05	0.37			
	18-32	35-50	1.35-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.02	0.37			
	32-60	5-15	1.45-1.65	6.00-20.00	0.03-0.06	Low	0.5-1.0	0.05	0.20			
Cameek	0-2	20-25	1.05-1.20	0.60-2.00	0.17-0.20	Moderate	2.0-4.0	0.43	0.55	1	6	48
	2-8	30-40	1.30-1.45	0.20-0.60	0.18-0.20	Moderate	1.0-3.0	0.32	0.43			
	8-19	40-60	1.15-1.35	0.06-0.20	0.12-0.16	High	0.5-1.0	0.15	0.37			
	19-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-15	1.40-1.55	2.00-6.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
280:												
Quarz	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
281:												
Quarz	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			
Cotant	0-3	27-40	1.10-1.30	0.20-0.60	0.13-0.16	Moderate	1.0-2.0	0.20	0.37	2	5	56
	3-12	40-60	1.25-1.45	0.06-0.20	0.14-0.16	High	0.5-2.0	0.24	0.28			
	12-16	---	---	0.00-0.01	---		---	---	---			
282:												
Quarz	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			
Quarz	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			
Arcia	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
290:												
Gochea	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
Vadaho	0-6	20-27	1.10-1.25	0.60-2.00	0.18-0.20	Moderate	2.0-3.0	0.43	0.55	1	6	48
	6-18	20-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	0.8-2.0	0.43	0.55			
	18-38	---	---	0.00-0.01	---		---	---	---			
	38-60	8-15	1.60-1.75	0.06-0.20	0.04-0.06	Low	0.0-0.5	0.05	0.32			
291:												
Gochea	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
Simon	0-13	10-20	1.15-1.35	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.43	5	5	56
	13-43	27-35	1.25-1.45	0.20-0.60	0.17-0.20	Moderate	0.5-1.0	0.28	0.37			
	43-60	20-26	1.35-1.50	0.60-2.00	0.11-0.15	Moderate	0.0-0.5	0.28	0.55			
300:												
Ola	0-6	5-15	1.50-1.60	2.00-6.00	0.09-0.11	Low	2.0-3.0	0.20	0.37	2	4	86
	6-29	5-15	1.50-1.70	0.60-2.00	0.07-0.11	Low	1.0-3.0	0.20	0.37			
	29-35	---	---	---	---		---	---	---			
	35-39	---	---	---	---		---	---	---			
Earcree	0-36	8-18	1.40-1.50	2.00-6.00	0.10-0.13	Low	2.0-4.0	0.10	0.17	5	4	86
	36-60	5-15	1.45-1.60	2.00-6.00	0.05-0.13	Low	0.0-0.5	0.10	0.20			
Ola	0-6	5-15	1.50-1.60	2.00-6.00	0.09-0.11	Low	2.0-3.0	0.20	0.37	2	4	86
	6-29	5-15	1.50-1.70	0.60-2.00	0.07-0.11	Low	1.0-3.0	0.20	0.37			
	29-35	---	---	---	---		---	---	---			
	35-39	---	---	---	---		---	---	---			
310:												
Agort	0-5	6-15	1.20-1.40	2.00-6.00	0.07-0.12	Low	2.0-4.0	0.10	0.20	1	4	86
	5-9	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
310 (con.):												
Xica	0-3	5-12	1.20-1.40	2.00-6.00	0.09-0.13	Low	2.0-4.0	0.17	0.24	1	3	86
	3-17	10-24	1.30-1.50	0.60-2.00	0.08-0.12	Low	1.0-3.0	0.15	0.28			
	17-21	---	---	0.00-0.01	---		---	---	---			
Xica	0-3	2-10	1.30-1.50	6.00-20.00	0.04-0.06	Low	2.0-4.0	0.10	0.17	1	3	86
	3-17	10-24	1.30-1.50	0.60-2.00	0.08-0.12	Low	1.0-3.0	0.15	0.28			
	17-21	---	---	0.00-0.01	---		---	---	---			
320:												
Hussell	0-4	5-10	1.35-1.55	2.00-6.00	0.08-0.11	Low	0.5-1.0	0.17	0.20	5	3	86
	4-16	8-15	1.40-1.60	2.00-6.00	0.05-0.11	Low	0.5-1.0	0.10	0.15			
	16-56	0-10	1.50-1.65	2.00-6.00	0.05-0.08	Low	0.0-0.5	0.05	0.05			
	56-65	0-10	1.50-1.65	6.00-20.00	0.03-0.06	Low	0.0-0.5	0.05	0.10			
Nevador	0-6	0-10	1.45-1.65	2.00-6.00	0.08-0.10	Low	0.5-1.0	0.49	0.49	5	2	134
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.24			
340:												
Xipe	0-3	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	3.0-5.0	0.37	0.37	3	6	48
	3-26	18-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.5-4.0	0.37	0.37			
	26-60	0-5	1.50-1.70	>20.00	0.03-0.07	Low	0.5-2.0	0.05	0.10			
Valmy	0-6	5-15	1.35-1.55	2.00-6.00	0.13-0.15	Low	0.5-1.0	0.32	0.37	4	3	86
	6-60	5-15	1.40-1.55	2.00-6.00	0.09-0.13	Low	0.0-0.5	0.28	0.37			
Ocala	0-8	15-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.7-1.0	0.43	0.43	5	4L	86
	8-46	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	46-60	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
341:												
Xipe	0-3	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	3.0-5.0	0.37	0.37	3	6	48
	3-26	18-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.5-4.0	0.37	0.37			
	26-60	0-5	1.50-1.70	>20.00	0.03-0.07	Low	0.5-2.0	0.05	0.10			
Batan	0-4	10-15	1.35-1.50	0.60-2.00	0.19-0.21	Low	0.0-0.5	0.55	0.55	5	4L	86
	4-60	20-30	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
Devilsgait	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
380:												
Elhina	0-2	18-25	1.15-1.35	0.60-2.00	0.12-0.15	Moderate	1.0-2.0	0.20	0.37	2	6	48
	2-5	20-30	1.20-1.40	0.20-0.60	0.13-0.16	Moderate	0.5-1.0	0.17	0.24			
	5-13	36-50	1.30-1.50	0.06-0.20	0.15-0.20	High	0.5-1.0	0.32	0.37			
	13-22	20-30	1.40-1.60	0.20-0.60	0.06-0.09	Moderate	0.0-0.5	0.05	0.20			
	22-27	---	---	---	---		---	---	---			
	27-60	3-8	1.60-1.80	2.00-6.00	0.04-0.08	Low	0.0-0.5	0.05	0.20			
400:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
400 (con.):												
Chuska	0-3	22-27	1.35-1.50	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.17	0.32	1	7	38
	3-12	26-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.17	0.24			
	12-22	---	---	---	---		---	---	---			
	22-53	0-5	1.50-1.65	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
	53-57	---	---	---	---		---	---	---			
401:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	12-18	1.30-1.50	0.60-2.00	0.07-0.10	Low	2.0-4.0	0.10	0.37	1	5	56
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
403:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	12-18	1.30-1.50	0.60-2.00	0.07-0.10	Low	2.0-4.0	0.10	0.37	1	5	56
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
404:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Oupico	0-4	10-15	1.35-1.50	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.32	0.32	2	4L	86
	4-25	8-18	1.40-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.5	0.24	0.37			
	25-49	---	---	0.00-0.01	---		---	---	---			
	49-62	5-10	1.55-1.75	0.20-0.60	0.12-0.14	Low	0.0-0.5	0.32	0.37			
405:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
405 (con.):												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
406:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Pibler	0-3	10-20	1.35-1.55	0.60-2.00	0.08-0.11	Low	1.0-2.0	0.15	0.37	1	6	48
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
407:												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Enko	0-3	10-18	1.35-1.45	0.60-2.00	0.14-0.18	Low	1.0-2.0	0.43	0.49	5	5	56
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
410:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
McIvey	0-13	20-27	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-5.0	0.15	0.43	5	7	38
	13-18	20-27	1.15-1.35	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.15	0.37			
	18-23	30-40	1.25-1.45	0.20-0.60	0.12-0.17	Moderate	0.5-1.0	0.10	0.43			
	23-62	40-50	1.25-1.40	0.00-0.06	0.07-0.10	Moderate	0.5-1.0	0.05	0.37			
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
411:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Coser	0-13	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	13-18	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	18-23	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	23-62	---	---	0.00-0.01	---		---	---	---			
McIvey	0-13	20-27	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-5.0	0.15	0.43	5	7	38
	13-18	20-27	1.15-1.35	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.15	0.37			
	18-23	30-40	1.25-1.45	0.20-0.60	0.12-0.17	Moderate	0.5-1.0	0.10	0.43			
	23-62	40-50	1.25-1.40	0.00-0.06	0.07-0.10	Moderate	0.5-1.0	0.05	0.37			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
412:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Lerrow	0-10	20-25	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-3.0	0.20	0.37	3	7	38
	10-16	30-40	1.20-1.40	0.20-0.60	0.16-0.19	Moderate	1.0-2.0	0.20	0.32			
	16-24	40-55	1.25-1.40	0.06-0.20	0.11-0.14	High	0.5-1.0	0.15	0.37			
	24-28	---	---	0.00-0.01	---		---	---	---			
414:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Forvic	0-13	30-40	1.15-1.35	0.20-0.60	0.12-0.15	Moderate	2.0-4.0	0.24	0.37	2	5	56
	13-20	50-59	1.20-1.35	0.06-0.20	0.12-0.15	High	1.0-2.0	0.20	0.28			
	20-22	50-59	1.20-1.35	0.06-0.20	0.08-0.10	High	0.5-1.0	0.15	0.37			
	22-30	---	---	---	---		---	---	---			
	30-34	---	---	---	---		---	---	---			
Scalfar	0-3	15-25	1.20-1.40	0.60-2.00	0.08-0.11	Low	2.0-4.0	0.15	0.43	5	7	38
	3-10	27-35	1.25-1.45	0.20-0.60	0.09-0.13	Low	1.0-2.0	0.15	0.49			
	10-63	10-18	1.40-1.60	2.00-6.00	0.03-0.05	Low	0.0-1.0	0.05	0.28			
415:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Cleavage	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Pequop	0-10	12-23	1.25-1.45	0.60-2.00	0.10-0.15	Low	2.0-5.0	0.20	0.37	3	6	48
	10-60	20-35	1.40-1.60	0.60-2.00	0.07-0.08	Low	1.0-3.0	0.05	0.37			
417:												
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Fez	0-14	1-10	0.75-0.85	6.00-20.00	0.06-0.10	Low	2.0-4.0	0.15	0.20	2	2	134
	14-23	1-10	0.80-0.95	6.00-20.00	0.06-0.10	Low	0.0-0.8	0.15	0.20			
	23-27	---	---	0.00-0.01	---		---	---	---			
Quopant	0-5	10-15	1.20-1.40	2.00-6.00	0.06-0.08	Low	2.0-4.0	0.10	0.32	2	5	56
	5-14	18-30	1.15-1.30	0.20-0.60	0.08-0.11	Low	1.0-3.0	0.05	0.37			
	14-18	10-20	1.35-1.55	2.00-6.00	0.07-0.11	Low	0.5-1.0	0.17	0.17			
	18-28	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
418:												
Rodie	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
Rubble Land	0-60	---	1.70-2.35	>20.00	0.00-0.10	Low	0.0-0.1	---	---	5	8	---
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
419:												
Rodie	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Pequop	0-10	12-23	1.25-1.45	0.60-2.00	0.10-0.15	Low	2.0-5.0	0.20	0.37	3	6	48
	10-60	20-35	1.40-1.60	0.60-2.00	0.07-0.08	Low	1.0-3.0	0.05	0.37			
420:												
Rodie	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Agassiz	0-2	20-27	1.10-1.25	0.60-2.00	0.06-0.11	Low	1.0-3.0	0.10	0.37	1	7	38
	2-11	20-27	1.10-1.25	0.60-2.00	0.03-0.07	Low	0.8-2.0	0.05	0.32			
	11-21	---	---	---	---		---	---	---			
421:												
Rodie	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Keman	0-38	14-18	1.10-1.30	0.60-2.00	0.11-0.15	Low	3.0-7.0	0.15	0.37	5	6	48
	38-60	24-34	1.30-1.50	0.60-2.00	0.07-0.10	Moderate	0.5-1.0	0.10	0.43			
422:												
Rodie	0-14	18-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.15	0.49	5	7	38
	14-30	15-25	1.30-1.50	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	30-39	15-25	1.45-1.65	0.20-0.60	0.04-0.09	Low	0.0-0.5	0.05	0.28			
	39-60	5-15	1.50-1.70	0.20-0.60	0.03-0.06	Low	0.0-0.5	0.02	0.28			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
422 (con.):												
Quarz----------	0-3	20-27	1.10-1.25	0.60-2.00	0.10-0.12	Low	2.0-3.0	0.15	0.49	2	7	38
	3-23	35-55	1.20-1.40	0.06-0.20	0.08-0.10	Moderate	0.5-2.0	0.10	0.37			
	23-27	---	---	0.00-0.01	---		---	---	---			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
423:												
Quopant---------	0-5	10-15	1.20-1.40	2.00-6.00	0.06-0.08	Low	2.0-4.0	0.10	0.32	2	5	56
	5-14	18-30	1.15-1.30	0.20-0.60	0.08-0.11	Low	1.0-3.0	0.05	0.37			
	14-18	10-20	1.35-1.55	2.00-6.00	0.07-0.11	Low	0.5-1.0	0.17	0.17			
	18-28	---	---	0.00-0.01	---		---	---	---			
Coser-----------	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
Lerrow----------	0-10	20-25	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-3.0	0.20	0.37	3	7	38
	10-16	30-40	1.20-1.40	0.20-0.60	0.16-0.19	Moderate	1.0-2.0	0.20	0.32			
	16-24	40-55	1.25-1.40	0.06-0.20	0.11-0.14	High	0.5-1.0	0.15	0.37			
	24-28	---	---	0.00-0.01	---		---	---	---			
430:												
Ocala-----------	0-8	15-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.7-1.0	0.43	0.43	5	4L	86
	8-46	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	46-60	5-10	1.40-1.55	0.06-0.20	0.15-0.17	Low	0.0-0.5	0.32	0.49			
Kelk------------	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.5-1.0	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
431:												
Ocala-----------	0-8	15-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.7-1.0	0.43	0.43	5	4L	86
	8-46	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	46-60	5-10	1.40-1.55	0.06-0.20	0.15-0.17	Low	0.0-0.5	0.32	0.49			
Batan-----------	0-9	10-15	1.35-1.50	0.60-2.00	0.19-0.21	Low	0.0-0.5	0.55	0.55	5	4L	86
	9-61	20-30	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
Devilsgait------	0-14	12-20	1.20-1.35	0.60-2.00	0.19-0.21	Low	2.0-4.0	0.37	0.37	5	4L	86
	14-62	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
432:												
Ocala-----------	0-8	27-35	1.30-1.45	0.20-0.60	0.19-0.21	Moderate	0.7-1.0	0.43	0.43	5	4L	86
	8-46	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	46-60	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
Ixian-----------	0-12	30-40	1.35-1.55	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.37	0.37	5	4L	86
	12-42	25-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	42-63	30-45	1.45-1.65	0.06-0.20	0.15-0.17	Moderate	0.0-0.5	0.32	0.32			
462:												
Graley----------	0-9	18-27	1.30-1.50	0.60-2.00	0.05-0.08	Low	2.0-4.0	0.05	0.43	1	8	---
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
462 (con.):												
Chen	0-6	20-27	1.10-1.25	0.60-2.00	0.08-0.12	Low	2.0-3.0	0.10	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.09	Moderate	0.5-2.0	0.10	0.49			
	12-16	---	---	0.00-0.01	---		---	---	---			
Arcia	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
470:												
Rock Outcrop.												
Chen	0-6	20-27	1.10-1.25	0.60-2.00	0.08-0.12	Low	2.0-3.0	0.10	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.09	Moderate	0.5-2.0	0.10	0.49			
	12-16	---	---	0.00-0.01	---		---	---	---			
Graley	0-9	18-27	1.30-1.50	0.60-2.00	0.05-0.08	Low	2.0-4.0	0.05	0.43	1	8	---
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
472:												
Chen	0-6	20-27	1.10-1.25	0.60-2.00	0.08-0.12	Low	2.0-3.0	0.10	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.09	Moderate	0.5-2.0	0.10	0.49			
	12-16	---	---	0.00-0.01	---		---	---	---			
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
473:												
Chen	0-6	15-25	1.10-1.25	0.60-2.00	0.05-0.07	Low	2.0-3.0	0.05	0.32	1	8	---
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.06	Moderate	0.5-2.0	0.10	0.24			
	12-16	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
474:												
Chen	0-6	20-27	1.10-1.25	0.60-2.00	0.08-0.12	Low	2.0-3.0	0.10	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.09	Moderate	0.5-2.0	0.10	0.49			
	12-16	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Vitale	0-5	12-25	1.30-1.45	2.00-6.00	0.09-0.12	Low	1.0-3.0	0.20	0.28	2	7	38
	5-21	26-35	1.40-1.50	0.20-0.60	0.05-0.07	Moderate	1.0-3.0	0.10	0.37			
	21-25	---	---	---	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
480:												
Devilsgait------	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
Kelk------------	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
481:												
Devilsgait------	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
Batan-----------	0-4	10-15	1.35-1.50	0.60-2.00	0.19-0.21	Low	0.0-0.5	0.55	0.55	5	4L	86
	4-60	20-30	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
Devilsgait------	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
482:												
Devilsgait------	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
483:												
Devilsgait------	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
Valmy-----------	0-6	5-15	1.35-1.55	2.00-6.00	0.13-0.15	Low	0.5-1.0	0.32	0.37	4	3	86
	6-60	5-15	1.40-1.55	2.00-6.00	0.09-0.13	Low	0.0-0.5	0.28	0.37			
490:												
Loncan----------	0-16	18-27	1.10-1.25	0.60-2.00	0.06-0.10	Low	1.0-2.0	0.10	0.37	2	7	38
	16-37	18-27	1.20-1.40	0.60-2.00	0.05-0.10	Low	0.5-1.0	0.10	0.37			
	37-41	---	---	0.00-0.01	---		---	---	---			
Sumine----------	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
520:												
Halleck---------	0-9	18-25	1.15-1.35	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.24	0.24	5	4L	86
	9-36	20-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	2.0-3.0	0.32	0.32			
	36-61	20-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.8-2.0	0.37	0.37			
521:												
Halleck---------	0-12	18-25	1.15-1.35	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.24	0.24	4	4L	86
	12-52	20-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.5-3.0	0.37	0.37			
	52-61	20-35	1.35-1.55	0.20-0.60	0.08-0.10	Low	0.5-1.0	0.10	0.32			
Halleck---------	0-9	18-25	1.15-1.35	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.24	0.24	5	4L	86
	9-36	20-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.5-3.0	0.32	0.32			
	36-61	20-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.5-2.0	0.37	0.37			
530:												
Ekim------------	0-9	20-27	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.20	0.43	2	6	48
	9-25	20-30	1.30-1.50	0.60-2.00	0.09-0.11	Low	0.5-1.0	0.20	0.43			
	25-33	---	---	0.00-0.01	---		---	---	---			
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	7	38
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
530 (con.):												
Loncan----------	0-16	18-27	1.10-1.25	0.60-2.00	0.06-0.10	Low	1.0-2.0	0.10	0.37	2	7	38
	16-37	18-27	1.20-1.40	0.60-2.00	0.05-0.10	Low	0.5-1.0	0.10	0.37			
	37-41	---	---	0.00-0.01	---		---	---	---			
540:												
Sumine----------	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Hapgood---------	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	7	38
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	7	38
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
541:												
Sumine----------	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Bullump---------	0-20	15-25	1.10-1.20	0.60-2.00	0.08-0.12	Low	2.0-6.0	0.15	0.43	3	7	38
	20-47	25-35	1.35-1.45	0.20-0.60	0.09-0.14	Low	0.5-3.0	0.10	0.32			
	47-51	---	---	0.00-0.01	---		---	---	---			
542:												
Sumine----------	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Hackwood--------	0-8	17-27	1.10-1.25	0.60-2.00	0.12-0.15	Moderate	2.0-4.0	0.10	0.55	5	7	38
	8-30	15-27	1.25-1.35	0.60-2.00	0.10-0.17	Moderate	1.0-2.0	0.28	0.49			
	30-61	25-35	1.35-1.45	0.60-2.00	0.08-0.14	Moderate	0.5-1.0	0.15	0.43			
543:												
Sumine----------	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Pernty----------	0-3	20-25	1.10-1.25	0.60-2.00	0.07-0.08	Low	2.0-3.0	0.15	0.55	1	7	38
	3-16	25-35	1.15-1.30	0.20-0.60	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	16-20	---	---	0.00-0.01	---		---	---	---			
Tusel-----------	0-20	10-20	1.20-1.40	0.60-2.00	0.06-0.09	Low	2.0-5.0	0.15	0.43	3	8	---
	20-42	25-35	1.25-1.45	0.20-0.60	0.08-0.11	Moderate	---	0.20	0.64			
	42-52	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
550:												
Bullump	0-7	15-25	1.10-1.20	0.60-2.00	0.09-0.12	Low	2.0-6.0	0.15	0.43	3	7	38
	7-23	15-25	1.10-1.20	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.49			
	23-54	25-35	1.35-1.45	0.20-0.60	0.09-0.14	Low	0.5-1.0	0.10	0.32			
	54-64	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Hapgood	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	7	38
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
560:												
Amene	0-8	20-27	1.05-1.25	0.60-2.00	0.10-0.15	Low	2.0-4.0	0.17	0.49	1	6	48
	8-16	18-27	1.10-1.30	0.60-2.00	0.06-0.13	Low	0.5-2.0	0.15	0.43			
	16-20	---	---	---	---		---	---	---			
Belsac	0-20	18-25	1.05-1.20	0.60-2.00	0.05-0.11	Low	3.0-5.0	0.10	0.32	3	7	38
	20-37	18-25	1.15-1.30	0.60-2.00	0.05-0.11	Low	2.0-3.0	0.10	0.32			
	37-41	---	---	0.00-0.01	---		---	---	---			
Onkeyo	0-8	27-35	1.05-1.20	0.20-0.60	0.08-0.14	Low	2.0-4.0	0.10	0.55	1	6	48
	8-15	25-35	1.20-1.40	0.20-0.60	0.04-0.10	Low	0.5-1.0	0.05	0.43			
	15-19	---	---	0.00-0.01	---		---	---	---			
561:												
Amene	0-8	20-27	1.05-1.25	0.60-2.00	0.10-0.15	Low	2.0-4.0	0.17	0.49	1	6	48
	8-16	18-27	1.10-1.30	0.60-2.00	0.06-0.13	Low	0.5-2.0	0.15	0.43			
	16-20	---	---	---	---		---	---	---			
Ekim	0-9	20-27	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.20	0.43	2	6	48
	9-25	20-30	1.30-1.50	0.60-2.00	0.09-0.11	Low	0.5-1.0	0.20	0.43			
	25-33	---	---	0.00-0.01	---		---	---	---			
Agassiz	0-2	20-27	1.10-1.25	0.60-2.00	0.06-0.11	Low	1.0-3.0	0.10	0.37	1	7	38
	2-11	20-27	1.10-1.25	0.60-2.00	0.03-0.07	Low	0.8-2.0	0.05	0.32			
	11-21	---	---	---	---		---	---	---			
570:												
Tusel	0-11	10-20	1.20-1.40	0.60-2.00	0.09-0.10	Low	2.0-5.0	0.17	0.43	3	8	---
	11-45	25-35	1.25-1.45	0.20-0.60	0.08-0.11	Moderate	0.5-2.0	0.20	0.43			
	45-49	---	---	0.00-0.01	---		---	---	---			
Belsac Variant	0-9	12-20	1.15-1.30	0.60-2.00	0.08-0.12	Low	3.0-5.0	0.24	0.64	5	8	---
	9-41	12-20	1.20-1.40	0.60-2.00	0.05-0.08	Low	0.5-2.0	0.24	0.64			
	41-61	12-20	1.30-1.50	0.60-2.00	0.05-0.07	Low	0.5-1.0	0.24	0.43			
580:												
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
Sonoma	0-8	20-27	1.35-1.50	0.60-2.00	0.18-0.21	Moderate	0.6-2.0	0.43	0.43	5	4L	86
	8-60	25-35	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.6-2.0	0.37	0.37			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
582:												
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
Devilsgait	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
Welch	0-14	30-35	1.20-1.35	0.20-0.60	0.19-0.21	Moderate	2.0-4.0	0.32	0.32	5	6	48
	14-62	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-3.0	0.28	0.55			
585:												
Valmy	0-3	5-15	1.35-1.50	0.60-2.00	0.15-0.17	Low	0.5-1.0	0.43	0.55	4	5	56
	3-43	5-15	1.40-1.55	2.00-6.00	0.09-0.13	Low	0.0-0.5	0.28	0.37			
	43-66	1-5	1.30-1.50	6.00-20.00	0.04-0.06	Low	0.0-0.5	0.05	0.15			
Luap	0-10	8-18	1.40-1.55	0.60-2.00	0.09-0.12	Low	0.3-0.8	0.15	0.49	3	6	48
	10-26	8-18	1.45-1.65	0.60-2.00	0.06-0.12	Low	0.0-0.5	0.10	0.37			
	26-31	---	---	0.00-0.01	---		---	---	---			
	31-60	2-8	1.55-1.70	6.00-20.00	0.03-0.04	Low	0.0-0.5	0.05	0.24			
590:												
Valmy	0-6	5-15	1.35-1.55	2.00-6.00	0.13-0.15	Low	0.5-1.0	0.32	0.37	4	3	86
	6-60	5-15	1.40-1.55	2.00-6.00	0.09-0.13	Low	0.0-0.5	0.28	0.37			
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
610:												
Grina	0-4	27-35	1.10-1.25	0.20-0.60	0.17-0.19	Moderate	1.0-2.0	0.43	0.49	2	4L	86
	4-14	20-35	1.35-1.50	0.20-0.60	0.13-0.19	Moderate	0.5-1.0	0.43	0.49			
	14-18	---	---	0.00-0.01	---		---	---	---			
Gochea	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
620:												
Vadaho	0-6	20-27	1.10-1.25	0.60-2.00	0.18-0.20	Moderate	2.0-3.0	0.43	0.55	1	6	48
	6-18	20-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	0.8-2.0	0.43	0.55			
	18-38	---	---	0.00-0.01	---		---	---	---			
	38-60	8-15	1.60-1.75	0.06-0.20	0.04-0.06	Low	0.0-0.5	0.05	0.32			
Vadaho	0-6	20-27	1.10-1.25	0.60-2.00	0.18-0.20	Moderate	2.0-3.0	0.43	0.55	1	6	48
	6-18	20-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	0.8-2.0	0.43	0.55			
	18-38	---	---	0.00-0.01	---		---	---	---			
	38-60	8-15	1.60-1.75	0.06-0.20	0.04-0.06	Low	0.0-0.5	0.05	0.32			
621:												
Vadaho	0-6	20-27	1.10-1.25	0.60-2.00	0.18-0.20	Moderate	2.0-3.0	0.43	0.55	1	6	48
	6-18	20-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	0.8-2.0	0.43	0.55			
	18-38	---	---	0.00-0.01	---		---	---	---			
	38-60	8-15	1.60-1.75	0.06-0.20	0.04-0.06	Low	0.0-0.5	0.05	0.32			
Vadaho	0-6	20-27	1.10-1.25	0.60-2.00	0.18-0.20	Moderate	2.0-3.0	0.43	0.55	1	6	48
	6-18	20-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	0.8-2.0	0.43	0.55			
	18-38	---	---	0.00-0.01	---		---	---	---			
	38-60	8-15	1.60-1.75	0.06-0.20	0.04-0.06	Low	0.0-0.5	0.05	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
621 (con.):												
Stampede--------	0-5	20-25	1.30-1.40	0.60-2.00	0.16-0.19	Moderate	1.0-3.0	0.43	0.49	2	7	38
	5-27	40-55	1.20-1.35	0.00-0.06	0.14-0.16	High	0.5-1.0	0.28	0.32			
	27-60	---	---	0.00-0.01	---		---	---	---			
631:												
Pernty----------	0-3	18-25	1.10-1.25	0.60-2.00	0.09-0.12	Low	2.0-3.0	0.15	0.32	1	7	38
	3-16	25-35	1.15-1.30	0.20-0.60	0.08-0.10	Moderate	0.5-1.0	0.15	0.37			
	16-20	---	---	0.00-0.01	---		---	---	---			
McIvey----------	0-13	20-27	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-5.0	0.15	0.43	5	7	38
	13-18	20-27	1.15-1.35	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.15	0.37			
	18-23	30-40	1.25-1.45	0.20-0.60	0.12-0.17	Moderate	0.5-1.0	0.10	0.43			
	23-62	40-50	1.25-1.40	0.00-0.06	0.07-0.10	Moderate	0.5-1.0	0.05	0.37			
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	7	38
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
632:												
Pernty----------	0-3	18-25	1.10-1.25	0.60-2.00	0.09-0.12	Low	2.0-3.0	0.15	0.32	1	7	38
	3-16	25-35	1.15-1.30	0.20-0.60	0.08-0.10	Moderate	0.5-1.0	0.15	0.37			
	16-20	---	---	0.00-0.01	---		---	---	---			
Sumine----------	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
633:												
Rock Outcrop.												
Pernty----------	0-3	18-25	1.10-1.25	0.60-2.00	0.09-0.12	Low	2.0-3.0	0.15	0.32	1	7	38
	3-16	25-35	1.15-1.30	0.20-0.60	0.08-0.10	Moderate	0.5-1.0	0.15	0.37			
	16-20	---	---	0.00-0.01	---		---	---	---			
Tweener---------	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	7	38
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
651:												
Scalfar---------	0-2	15-25	1.20-1.40	0.60-2.00	0.08-0.11	Low	2.0-4.0	0.15	0.55	5	7	38
	2-11	27-35	1.25-1.45	0.20-0.60	0.09-0.13	Low	1.0-2.0	0.15	0.43			
	11-25	10-20	1.30-1.50	0.60-2.00	0.05-0.09	Low	0.5-1.0	0.10	0.43			
	25-60	8-18	1.40-1.60	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.05	0.28			
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Hackwood--------	0-8	17-27	1.10-1.25	0.60-2.00	0.12-0.15	Moderate	2.0-4.0	0.10	0.55	5	7	38
	8-30	15-27	1.25-1.35	0.60-2.00	0.10-0.17	Moderate	1.0-2.0	0.28	0.49			
	30-61	25-35	1.35-1.45	0.60-2.00	0.08-0.14	Moderate	0.5-1.0	0.15	0.43			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
652:												
Scalfar---------	0-2	15-25	1.20-1.40	0.60-2.00	0.08-0.11	Low	2.0-4.0	0.15	0.55	5	7	38
	2-11	27-35	1.25-1.45	0.20-0.60	0.09-0.13	Low	1.0-2.0	0.15	0.43			
	11-25	10-20	1.30-1.50	0.60-2.00	0.05-0.09	Low	0.5-1.0	0.10	0.43			
	25-60	8-18	1.40-1.60	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.05	0.28			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Quopant---------	0-5	10-15	1.20-1.40	2.00-6.00	0.06-0.08	Low	2.0-4.0	0.10	0.32	2	5	56
	5-14	18-30	1.15-1.30	0.20-0.60	0.08-0.11	Low	1.0-3.0	0.05	0.37			
	14-18	10-20	1.35-1.55	2.00-6.00	0.07-0.11	Low	0.5-1.0	0.17	0.17			
	18-22	---	---	0.00-0.01	---		---	---	---			
655:												
Scalfar---------	0-2	15-25	1.20-1.40	0.60-2.00	0.08-0.11	Low	2.0-4.0	0.15	0.55	5	7	38
	2-11	27-35	1.25-1.45	0.20-0.60	0.09-0.13	Low	1.0-2.0	0.15	0.43			
	11-25	10-20	1.30-1.50	0.60-2.00	0.05-0.09	Low	0.5-1.0	0.10	0.43			
	25-60	8-18	1.40-1.60	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.05	0.28			
Hapgood---------	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	8	---
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
656:												
Scalfar---------	0-3	15-25	1.20-1.40	0.60-2.00	0.08-0.11	Low	2.0-4.0	0.15	0.43	5	7	38
	3-10	27-35	1.25-1.45	0.20-0.60	0.09-0.13	Low	1.0-2.0	0.15	0.49			
	10-63	10-18	1.40-1.60	2.00-6.00	0.03-0.05	Low	0.0-1.0	0.05	0.28			
Fenelon---------	0-6	18-25	1.05-1.20	0.60-2.00	0.13-0.15	Low	2.0-4.0	0.17	0.55	3	7	38
	6-37	27-35	1.10-1.30	0.20-0.60	0.13-0.17	Moderate	0.5-2.0	0.15	0.32			
	37-47	---	---	0.00-0.01	---		---	---	---			
Booford---------	0-9	27-35	1.10-1.30	0.06-0.20	0.16-0.18	Moderate	2.0-4.0	0.17	0.43	3	7	38
	9-24	40-60	1.30-1.45	0.06-0.20	0.12-0.14	High	1.0-2.0	0.15	0.37			
	24-34	---	---	0.00-0.01	---		---	---	---			
660:												
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	8	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
661:												
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
661 (con.):												
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
662:												
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Peeko-----------	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Zapa------------	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
664:												
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Kram------------	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
665:												
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Izar------------	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
666:												
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	7	38
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			
Kleckner--------	0-7	15-25	1.10-1.30	0.60-2.00	0.11-0.17	Moderate	2.0-3.0	0.20	0.37	5	7	38
	7-11	35-50	1.25-1.45	0.06-0.20	0.08-0.12	Moderate	1.0-2.0	0.05	0.37			
	11-42	35-50	1.25-1.45	0.06-0.20	0.08-0.14	Moderate	0.5-1.0	0.05	0.37			
	42-60	10-20	1.20-1.40	0.60-2.00	0.12-0.15	Moderate	0.5-0.8	0.24	0.37			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
670:												
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
Kleckner--------	0-7	15-25	1.10-1.30	0.60-2.00	0.11-0.17	Moderate	2.0-3.0	0.20	0.37	5	6	48
	7-11	35-50	1.25-1.45	0.06-0.20	0.08-0.12	Moderate	1.0-2.0	0.05	0.37			
	11-42	35-50	1.25-1.45	0.06-0.20	0.08-0.14	Moderate	0.5-1.0	0.05	0.37			
	42-60	10-20	1.20-1.40	0.60-2.00	0.12-0.15	Moderate	0.5-0.8	0.24	0.37			
Anowell---------	0-2	18-25	1.30-1.50	0.60-2.00	0.12-0.15	Moderate	0.0-2.0	0.24	0.43	1	7	38
	2-6	25-35	1.35-1.55	0.20-0.60	0.14-0.18	Moderate	0.0-1.0	0.20	0.32			
	6-10	---	---	0.00-0.06	---		---	---	---			
672:												
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
Cameek----------	0-2	20-25	1.05-1.20	0.60-2.00	0.17-0.20	Moderate	2.0-4.0	0.43	0.55	1	6	48
	2-8	30-40	1.30-1.45	0.20-0.60	0.18-0.20	Moderate	1.0-3.0	0.32	0.43			
	8-19	40-60	1.15-1.35	0.06-0.20	0.12-0.16	High	0.5-1.0	0.15	0.37			
	19-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-15	1.40-1.55	2.00-6.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
673:												
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
Gance-----------	0-5	20-25	1.35-1.55	0.60-2.00	0.05-0.11	Low	1.0-2.0	0.15	0.55	5	7	38
	5-20	35-55	1.35-1.50	0.06-0.20	0.04-0.10	Moderate	0.0-0.5	0.10	0.37			
	20-60	10-20	1.50-1.70	0.20-2.00	0.02-0.11	Low	0.0-0.5	0.05	0.32			
674:												
Ackett----------	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
674 (con.):												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
678:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
679:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-30	---	---	0.00-0.01	---		---	---	---			
	30-60	---	---	0.00-0.20	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
680:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Holborn	0-3	18-27	1.30-1.50	0.60-2.00	0.11-0.15	Moderate	1.0-2.0	0.17	0.32	1	5	56
	3-7	18-30	1.25-1.45	0.20-0.60	0.11-0.17	Moderate	0.5-1.0	0.20	0.37			
	7-17	---	---	0.00-0.01	---		---	---	---			
Kzin	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
681:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Loomis	0-1	15-27	1.20-1.40	0.60-2.00	0.08-0.10	Low	1.0-2.0	0.20	0.43	1	7	38
	1-9	35-55	1.15-1.35	0.06-0.20	0.04-0.06	Moderate	0.5-1.0	0.10	0.28			
	9-13	---	---	0.00-0.01	---		---	---	---			
Vanwyper	0-10	18-25	1.10-1.25	0.60-2.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	7	38
	10-25	35-55	1.30-1.50	0.06-0.20	0.06-0.10	Moderate	0.5-1.0	0.10	0.37			
	25-29	---	---	0.00-0.01	---		---	---	---			
682:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
682 (con.):												
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
683:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Holborn	0-3	18-27	1.30-1.50	0.60-2.00	0.11-0.15	Moderate	1.0-2.0	0.17	0.32	1	5	56
	3-7	18-30	1.25-1.45	0.20-0.60	0.11-0.17	Moderate	0.5-1.0	0.20	0.37			
	7-17	---	---	0.00-0.01	---		---	---	---			
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
684:												
Rock Outcrop.												
Izar	0-3	18-25	1.20-1.40	0.60-2.00	0.07-0.11	Moderate	1.0-2.0	0.10	0.32	1	6	48
	3-13	18-25	1.30-1.50	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	13-17	---	---	0.00-0.01	---		---	---	---			
685:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Yuko	0-4	10-20	1.25-1.45	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.17	0.55	2	7	38
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			
686:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Vanwyper	0-10	18-25	1.10-1.25	0.60-2.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	7	38
	10-25	35-55	1.30-1.50	0.06-0.20	0.06-0.10	Moderate	0.5-1.0	0.10	0.37			
	25-29	---	---	0.00-0.01	---		---	---	---			
687:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
687 (con.):												
Wiffo	0-8	10-18	1.40-1.60	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.10	0.32	3	6	48
	8-27	8-15	1.55-1.70	2.00-6.00	0.04-0.06	Low	0.5-1.0	0.05	0.32			
	27-60	5-15	1.55-1.70	6.00-20.00	0.03-0.06	Low	0.0-0.5	0.05	0.32			
688:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Yuko	0-4	10-20	1.25-1.45	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.17	0.55	2	7	38
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			
689:												
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
690:												
Oupico	0-4	6-15	1.35-1.50	2.00-6.00	0.11-0.13	Low	1.0-2.0	0.24	0.24	2	3	86
	4-25	8-18	1.40-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.5	0.24	0.37			
	25-49	---	---	0.00-0.01	---		---	---	---			
	49-62	5-10	1.55-1.75	0.20-0.60	0.12-0.14	Low	0.0-0.5	0.32	0.37			
Oupico	0-4	6-15	1.35-1.50	2.00-6.00	0.11-0.13	Low	1.0-2.0	0.24	0.24	2	3	86
	4-25	8-18	1.40-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.5	0.24	0.37			
	25-49	---	---	0.00-0.01	---		---	---	---			
	49-62	5-10	1.55-1.75	0.20-0.60	0.12-0.14	Low	0.0-0.5	0.32	0.37			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-25	---	---	0.00-0.01	---		---	---	---			
691:												
Oupico	0-4	10-15	1.35-1.50	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.32	0.32	2	4L	86
	4-25	8-18	1.40-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.5	0.24	0.37			
	25-49	---	---	0.00-0.01	---		---	---	---			
	49-62	5-10	1.55-1.75	0.20-0.60	0.12-0.14	Low	0.0-0.5	0.32	0.37			
Enko	0-14	10-18	1.35-1.50	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.37	0.37	4	5	56
	14-53	10-18	1.45-1.65	0.06-0.20	0.12-0.18	Low	0.0-0.5	0.37	0.37			
	53-63	2-10	1.55-1.75	>20.00	0.03-0.04	Low	0.0-0.5	0.05	0.24			
700:												
Xica	0-3	5-12	1.20-1.40	2.00-6.00	0.09-0.13	Low	2.0-4.0	0.17	0.24	1	3	86
	3-17	10-24	1.30-1.50	0.60-2.00	0.08-0.12	Low	1.0-3.0	0.15	0.28			
	17-21	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
700 (con.):												
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Hapgood---------	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	7	38
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
701:												
Xica------------	0-3	5-12	1.20-1.40	2.00-6.00	0.09-0.13	Low	2.0-4.0	0.17	0.24	1	3	86
	3-17	10-24	1.30-1.50	0.60-2.00	0.08-0.12	Low	1.0-3.0	0.15	0.28			
	17-21	---	---	0.00-0.01	---		---	---	---			
Xica------------	0-3	5-12	1.20-1.40	2.00-6.00	0.09-0.13	Low	2.0-4.0	0.17	0.24	1	3	86
	3-17	10-24	1.30-1.50	0.60-2.00	0.08-0.12	Low	1.0-3.0	0.15	0.28			
	17-21	---	---	0.00-0.01	---		---	---	---			
Agort-----------	0-5	6-15	1.20-1.40	2.00-6.00	0.07-0.12	Low	2.0-4.0	0.10	0.20	1	4	86
	5-9	---	---	0.00-0.01	---		---	---	---			
730:												
Geysen----------	0-4	10-15	1.15-1.30	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.43	0.43	5	5	56
	4-12	25-35	1.30-1.50	0.06-0.20	0.18-0.21	Moderate	0.5-1.0	0.37	0.37			
	12-60	15-20	1.40-1.60	0.60-2.00	0.14-0.17	Low	0.0-1.0	0.28	0.37			
Welch-----------	0-14	27-40	1.20-1.35	0.20-0.60	0.19-0.21	Moderate	2.0-4.0	0.32	0.32	5	4	86
	14-62	27-35	1.30-1.45	0.20-0.60	0.16-0.21	Moderate	0.5-4.0	0.28	0.32			
Batan-----------	0-4	10-15	1.35-1.50	0.60-2.00	0.19-0.21	Low	0.0-0.5	0.55	0.55	5	4L	86
	4-60	20-30	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
731:												
Geysen----------	0-4	10-15	1.15-1.30	0.60-2.00	0.19-0.21	Low	1.0-2.0	0.43	0.43	5	5	56
	4-12	25-35	1.30-1.50	0.06-0.20	0.18-0.21	Moderate	0.5-1.0	0.37	0.37			
	12-60	15-20	1.40-1.60	0.60-2.00	0.14-0.17	Low	0.0-1.0	0.28	0.37			
Crooked Creek---	0-18	30-40	1.20-1.40	0.06-0.20	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4	86
	18-61	35-50	1.25-1.45	0.06-0.20	0.15-0.16	High	2.0-4.0	0.28	0.24			
Batan-----------	0-4	10-15	1.35-1.50	0.60-2.00	0.19-0.21	Low	0.0-0.5	0.55	0.55	5	4L	86
	4-60	20-30	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
742:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Vitale----------	0-5	12-25	1.30-1.45	2.00-6.00	0.09-0.12	Low	1.0-3.0	0.20	0.28	2	7	38
	5-21	26-35	1.40-1.50	0.20-0.60	0.05-0.07	Moderate	1.0-3.0	0.10	0.37			
	21-25	---	---	---	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
743:												
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
744:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Graley----------	0-9	18-27	1.30-1.50	0.60-2.00	0.05-0.08	Low	2.0-4.0	0.05	0.43	1	8	---
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
Hapgood---------	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	8	---
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
745:												
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Graley----------	0-9	10-18	1.30-1.50	0.60-2.00	0.08-0.12	Low	2.0-4.0	0.17	0.55	1	7	38
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
746:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Hackwood--------	0-8	17-27	1.10-1.25	0.60-2.00	0.12-0.15	Moderate	2.0-4.0	0.10	0.55	5	7	38
	8-30	15-27	1.25-1.35	0.60-2.00	0.10-0.17	Moderate	1.0-2.0	0.28	0.49			
	30-61	25-35	1.35-1.45	0.60-2.00	0.08-0.14	Moderate	0.5-1.0	0.15	0.43			
Graley----------	0-9	18-27	1.30-1.50	0.60-2.00	0.05-0.08	Low	2.0-4.0	0.05	0.43	1	8	---
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
747:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Keman-----------	0-38	14-18	1.10-1.30	0.60-2.00	0.11-0.15	Low	3.0-7.0	0.15	0.37	5	6	48
	38-60	24-34	1.30-1.50	0.60-2.00	0.07-0.10	Moderate	0.5-1.0	0.10	0.43			
Hogmalat--------	0-3	12-20	1.25-1.40	0.60-2.00	0.06-0.08	Low	2.0-3.0	0.10	0.32	1	7	38
	3-10	24-34	1.15-1.35	0.20-0.60	0.08-0.12	Moderate	1.0-2.0	0.10	0.28			
	10-14	---	---	---	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
748:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Shalcleav-------	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Quopant---------	0-5	10-15	1.20-1.40	2.00-6.00	0.06-0.08	Low	2.0-4.0	0.10	0.32	2	5	56
	5-14	18-30	1.15-1.30	0.20-0.60	0.08-0.11	Low	1.0-3.0	0.05	0.37			
	14-18	10-20	1.35-1.55	2.00-6.00	0.07-0.11	Low	0.5-1.0	0.17	0.17			
	18-28	---	---	0.00-0.01	---		---	---	---			
749:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Snotown---------	0-7	12-18	1.25-1.40	2.00-6.00	0.04-0.08	Low	2.0-4.0	0.05	0.17	2	5	56
	7-30	12-18	1.35-1.55	2.00-6.00	0.04-0.08	Low	0.5-1.0	0.05	0.20			
	30-33	---	---	0.00-0.01	---		---	---	---			
Chen------------	0-6	20-27	1.10-1.25	0.60-2.00	0.08-0.12	Low	2.0-3.0	0.10	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.09	Moderate	0.5-2.0	0.10	0.49			
	12-16	---	---	0.00-0.01	---		---	---	---			
750:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Bullump---------	0-20	15-25	1.10-1.20	0.60-2.00	0.08-0.12	Low	2.0-6.0	0.15	0.43	3	7	38
	20-47	25-35	1.35-1.45	0.20-0.60	0.09-0.14	Low	0.5-3.0	0.10	0.32			
	47-51	---	---	0.00-0.01	---		---	---	---			
Hackwood--------	0-8	17-27	1.10-1.25	0.60-2.00	0.12-0.15	Moderate	2.0-4.0	0.10	0.55	5	7	38
	8-30	15-27	1.25-1.35	0.60-2.00	0.10-0.17	Moderate	1.0-2.0	0.28	0.49			
	30-61	25-35	1.35-1.45	0.60-2.00	0.08-0.14	Moderate	0.5-1.0	0.15	0.43			
751:												
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Hapgood---------	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	8	---
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
752:												
Cleavage--------	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
752 (con.):												
Arcia	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
Lerrow	0-10	20-25	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-3.0	0.20	0.37	3	7	38
	10-16	30-40	1.20-1.40	0.20-0.60	0.16-0.19	Moderate	1.0-2.0	0.20	0.32			
	16-24	40-55	1.25-1.40	0.06-0.20	0.11-0.14	High	0.5-1.0	0.15	0.37			
	24-28	---	---	0.00-0.01	---		---	---	---			
753:												
Rock Outcrop.												
Cleavage	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
754:												
Cleavage	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
755:												
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Hapgood	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	7	38
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
756:												
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Pernty	0-3	18-25	1.10-1.25	0.60-2.00	0.09-0.12	Low	2.0-3.0	0.15	0.32	1	7	38
	3-16	25-35	1.15-1.30	0.20-0.60	0.08-0.10	Moderate	0.5-1.0	0.15	0.37			
	16-20	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
757:												
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Snotown	0-7	12-18	1.25-1.40	2.00-6.00	0.04-0.08	Low	2.0-4.0	0.05	0.17	2	5	56
	7-30	12-18	1.35-1.55	2.00-6.00	0.04-0.08	Low	0.5-1.0	0.05	0.20			
	30-33	---	---	0.00-0.01	---		---	---	---			
758:												
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Tweener	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	7	38
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
Graley	0-9	10-18	1.30-1.50	0.60-2.00	0.08-0.12	Low	2.0-4.0	0.17	0.55	1	7	38
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
759:												
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Tweener	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	7	38
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
Scalfar	0-2	15-25	1.20-1.40	0.60-2.00	0.08-0.11	Low	2.0-4.0	0.15	0.55	5	7	38
	2-11	27-35	1.25-1.45	0.20-0.60	0.09-0.13	Low	1.0-2.0	0.15	0.43			
	11-25	10-20	1.30-1.50	0.60-2.00	0.05-0.09	Low	0.5-1.0	0.10	0.43			
	25-60	8-18	1.40-1.60	2.00-6.00	0.02-0.05	Low	0.0-0.5	0.05	0.28			
760:												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	---	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	---	0.10	0.24			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
761:												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
761 (con.):												
Gance	0-5	20-25	1.35-1.55	0.60-2.00	0.05-0.11	Low	1.0-2.0	0.15	0.55	5	7	38
	5-20	35-55	1.35-1.50	0.06-0.20	0.04-0.10	Moderate	0.0-0.5	0.10	0.37			
	20-60	10-20	1.50-1.70	0.20-2.00	0.02-0.11	Low	0.0-0.5	0.05	0.32			
762:												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Gance	0-5	20-25	1.35-1.55	0.60-2.00	0.05-0.11	Low	1.0-2.0	0.15	0.55	5	7	38
	5-20	35-55	1.35-1.50	0.06-0.20	0.04-0.10	Moderate	0.0-0.5	0.10	0.37			
	20-60	10-20	1.50-1.70	0.20-2.00	0.02-0.11	Low	0.0-0.5	0.05	0.32			
763:												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
Pamison	0-13	18-25	1.15-1.30	0.60-2.00	0.11-0.15	Low	2.0-4.0	0.20	0.37	3	5	56
	13-24	10-20	1.40-1.60	0.20-6.00	0.03-0.09	Low	0.8-1.0	0.10	0.32			
	24-60	5-10	1.50-1.70	6.00-20.00	0.02-0.05	Low	0.0-0.5	0.05	0.24			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
764:												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
Jericho	0-7	10-18	1.25-1.45	2.00-6.00	0.18-0.20	Low	1.0-2.0	0.37	0.43	1	4L	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
765:												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
Pequop	0-10	12-23	1.25-1.45	0.60-2.00	0.10-0.15	Low	2.0-5.0	0.20	0.37	3	6	48
	10-60	20-35	1.40-1.60	0.60-2.00	0.07-0.08	Low	1.0-3.0	0.05	0.37			
Yuko	0-4	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
780:												
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Yuko	0-4	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			
781:												
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	12-18	1.30-1.50	0.60-2.00	0.07-0.10	Low	2.0-4.0	0.10	0.37	1	5	56
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
790:												
Loomis	0-1	18-25	1.20-1.35	0.60-2.00	0.05-0.12	Low	1.0-2.0	0.10	0.43	1	7	38
	1-5	35-40	1.30-1.45	0.20-0.60	0.12-0.18	Moderate	0.5-1.0	0.10	0.32			
	5-9	40-60	1.15-1.35	0.06-0.20	0.04-0.10	Moderate	0.5-1.0	0.05	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
Ackett	0-2	18-27	1.15-1.30	0.20-0.60	0.08-0.13	Low	1.0-2.0	0.10	0.37	1	7	38
	2-5	35-50	1.25-1.45	0.20-0.60	0.13-0.20	Moderate	0.5-1.0	0.20	0.32			
	5-13	35-55	1.30-1.50	0.06-0.20	0.04-0.09	Moderate	0.5-1.0	0.05	0.37			
	13-51	---	---	---	---		---	---	---			
	51-61	5-15	1.60-1.80	2.00-6.00	0.08-0.12	Low	0.0-0.5	0.20	0.32			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
796:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
797:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Amene	0-8	20-27	1.05-1.25	0.60-2.00	0.10-0.15	Low	2.0-4.0	0.17	0.49	1	6	48
	8-16	18-27	1.10-1.30	0.60-2.00	0.06-0.13	Low	0.5-2.0	0.15	0.43			
	16-20	---	---	---	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
798:												
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Amene-----------	0-8	20-27	1.05-1.25	0.60-2.00	0.10-0.15	Low	2.0-4.0	0.17	0.49	1	6	48
	8-16	18-27	1.10-1.30	0.60-2.00	0.06-0.13	Low	0.5-2.0	0.15	0.43			
	16-20	---	---	---	---		---	---	---			
Hackwood--------	0-8	17-27	1.10-1.25	0.60-2.00	0.12-0.15	Moderate	2.0-4.0	0.10	0.55	5	7	38
	8-30	15-27	1.25-1.35	0.60-2.00	0.10-0.17	Moderate	1.0-2.0	0.28	0.49			
	30-61	25-35	1.35-1.45	0.60-2.00	0.08-0.14	Moderate	0.5-1.0	0.15	0.43			
799:												
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Arcia-----------	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
Vitale----------	0-5	12-25	1.30-1.45	2.00-6.00	0.09-0.12	Low	1.0-3.0	0.20	0.28	2	7	38
	5-21	26-35	1.40-1.50	0.20-0.60	0.05-0.07	Moderate	1.0-3.0	0.10	0.37			
	21-25	---	---	---	---		---	---	---			
801:												
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Amene-----------	0-8	20-27	1.05-1.25	0.60-2.00	0.10-0.15	Low	2.0-4.0	0.17	0.49	1	6	48
	8-16	18-27	1.10-1.30	0.60-2.00	0.06-0.13	Low	0.5-2.0	0.15	0.43			
	16-20	---	---	---	---		---	---	---			
Onkeyo----------	0-8	27-35	1.05-1.20	0.20-0.60	0.08-0.14	Low	2.0-4.0	0.10	0.55	1	6	48
	8-15	25-35	1.20-1.40	0.20-0.60	0.04-0.10	Low	0.5-1.0	0.05	0.43			
	15-19	---	---	0.00-0.01	---		---	---	---			
802:												
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Hackwood--------	0-8	17-27	1.10-1.25	0.60-2.00	0.12-0.15	Moderate	2.0-4.0	0.10	0.55	5	7	38
	8-30	15-27	1.25-1.35	0.60-2.00	0.10-0.17	Moderate	1.0-2.0	0.28	0.49			
	30-61	25-35	1.35-1.45	0.60-2.00	0.08-0.14	Moderate	0.5-1.0	0.15	0.43			
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
804:												
Gollaher--------	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Onkeyo----------	0-10	27-35	1.05-1.20	0.20-0.60	0.08-0.14	Low	2.0-4.0	0.10	0.55	1	6	48
	10-36	25-35	1.20-1.40	0.20-0.60	0.04-0.10	Low	0.5-1.0	0.05	0.43			
	36-40	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
804 (con.):												
Nirac	0-14	10-18	1.20-1.35	0.60-2.00	0.12-0.18	Low	2.0-3.0	0.28	0.43	2	5	56
	14-25	15-25	1.15-1.30	0.60-2.00	0.07-0.14	Low	0.5-1.0	0.10	0.37			
	25-29	---	---	0.00-0.01	---		---	---	---			
805:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Ekim	0-9	20-27	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-4.0	0.20	0.43	2	6	48
	9-25	20-30	1.30-1.50	0.60-2.00	0.09-0.11	Low	0.5-1.0	0.20	0.43			
	25-33	---	---	0.00-0.01	---		---	---	---			
Hapgood	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	8	---
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
806:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Vitale	0-5	12-25	1.30-1.45	2.00-6.00	0.09-0.12	Low	1.0-3.0	0.20	0.28	2	7	38
	5-21	26-35	1.40-1.50	0.20-0.60	0.05-0.07	Moderate	1.0-3.0	0.10	0.37			
	21-25	---	---	---	---		---	---	---			
807:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Belsac	0-20	18-25	1.05-1.20	0.60-2.00	0.05-0.11	Low	3.0-5.0	0.10	0.32	3	8	---
	20-37	18-25	1.15-1.30	0.60-2.00	0.05-0.11	Low	2.0-3.0	0.10	0.32			
	37-41	---	---	0.00-0.01	---		---	---	---			
808:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
Cleavage	0-7	15-20	1.15-1.35	0.60-2.00	0.10-0.12	Low	1.0-3.0	0.05	0.43	1	8	---
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Hapgood	0-4	15-25	1.05-1.20	0.60-2.00	0.08-0.10	Low	2.0-3.0	0.17	0.49	3	8	---
	4-31	18-27	1.15-1.35	0.60-2.00	0.08-0.10	Low	0.5-2.0	0.10	0.24			
	31-50	10-15	1.35-1.55	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.10	0.32			
	50-54	---	---	0.00-0.01	---		---	---	---			
809:												
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
809 (con.):												
Xica	0-3	5-12	1.20-1.40	2.00-6.00	0.09-0.13	Low	2.0-4.0	0.17	0.24	1	3	86
	3-17	10-24	1.30-1.50	0.60-2.00	0.08-0.12	Low	1.0-3.0	0.15	0.28			
	17-21	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
810:												
Igdell	0-2	27-35	1.05-1.20	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.37	0.43	2	7	38
	2-31	45-60	1.20-1.35	0.06-0.20	0.07-0.14	High	0.5-1.0	0.32	0.49			
	31-37	20-35	1.25-1.45	0.20-0.60	0.10-0.18	Moderate	0.5-1.0	0.32	0.43			
	37-45	---	---	0.00-0.01	---		---	---	---			
Kleckner	0-7	15-25	1.10-1.30	0.60-2.00	0.11-0.17	Moderate	2.0-3.0	0.20	0.37	5	6	48
	7-11	35-50	1.25-1.45	0.06-0.20	0.08-0.12	Moderate	1.0-2.0	0.05	0.37			
	11-42	35-50	1.25-1.45	0.06-0.20	0.08-0.14	Moderate	0.5-1.0	0.05	0.37			
	42-60	10-20	1.20-1.40	0.60-2.00	0.12-0.15	Moderate	0.5-0.8	0.24	0.37			
820:												
Cotant	0-3	20-27	1.10-1.30	0.60-2.00	0.12-0.14	Low	1.0-2.0	0.15	0.43	2	7	38
	3-12	40-60	1.25-1.45	0.06-0.20	0.14-0.16	High	0.5-2.0	0.24	0.28			
	12-16	---	---	0.00-0.01	---		---	---	---			
Eboda	0-9	15-25	1.05-1.20	0.60-2.00	0.15-0.18	Low	2.0-4.0	0.28	0.37	3	5	56
	9-30	25-35	1.30-1.50	0.20-0.60	0.15-0.20	Moderate	0.5-2.0	0.24	0.32			
	30-37	15-30	1.30-1.50	0.60-2.00	0.11-0.17	Low	0.0-1.0	0.15	0.28			
	37-41	---	---	0.00-0.01	---		---	---	---			
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
822:												
Cotant	0-3	27-40	1.10-1.30	0.20-0.60	0.13-0.16	Moderate	1.0-2.0	0.20	0.37	2	5	56
	3-12	40-60	1.25-1.45	0.06-0.20	0.14-0.16	High	0.5-2.0	0.24	0.28			
	12-16	---	---	0.00-0.01	---		---	---	---			
Chen	0-6	15-25	1.10-1.25	0.60-2.00	0.07-0.08	Low	2.0-3.0	0.15	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.06	Moderate	0.5-2.0	0.10	0.24			
	12-16	---	---	0.00-0.01	---		---	---	---			
Graley	0-9	18-27	1.30-1.50	0.60-2.00	0.05-0.08	Low	2.0-4.0	0.05	0.43	1	8	---
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
830:												
Onkeyo	0-8	27-35	1.05-1.20	0.20-0.60	0.08-0.14	Low	2.0-4.0	0.10	0.55	1	6	48
	8-15	25-35	1.20-1.40	0.20-0.60	0.04-0.10	Low	0.5-1.0	0.05	0.43			
	15-19	---	---	0.00-0.01	---		---	---	---			
Pequop	0-10	12-23	1.25-1.45	0.60-2.00	0.10-0.15	Low	2.0-5.0	0.20	0.37	3	6	48
	10-60	20-35	1.40-1.60	0.60-2.00	0.07-0.08	Low	1.0-3.0	0.05	0.37			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
850:												
Pamison	0-13	18-25	1.15-1.30	0.60-2.00	0.11-0.15	Low	2.0-4.0	0.20	0.37	3	5	56
	13-24	10-20	1.40-1.60	0.20-6.00	0.03-0.09	Low	0.8-1.0	0.10	0.32			
	24-60	5-10	1.50-1.70	6.00-20.00	0.02-0.05	Low	0.0-0.5	0.05	0.24			
Affey	0-12	20-27	1.20-1.40	0.20-0.60	0.13-0.16	Moderate	2.0-4.0	0.24	0.49	5	7	38
	12-21	35-40	1.35-1.50	0.06-0.20	0.17-0.19	Moderate	0.5-1.0	0.15	0.43			
	21-34	35-50	1.30-1.50	0.06-0.20	0.07-0.11	Moderate	0.0-0.5	0.10	0.32			
	34-60	27-40	1.45-1.65	0.06-0.20	0.05-0.07	Moderate	0.0-0.5	0.05	0.32			
Pamison	0-13	18-25	1.15-1.30	0.60-2.00	0.11-0.15	Low	2.0-4.0	0.20	0.37	3	5	56
	13-24	10-20	1.40-1.60	0.20-6.00	0.03-0.09	Low	0.8-1.0	0.10	0.32			
	24-60	5-10	1.50-1.70	6.00-20.00	0.02-0.05	Low	0.0-0.5	0.05	0.24			
851:												
Pamison	0-13	18-25	1.15-1.30	0.60-2.00	0.11-0.15	Low	2.0-4.0	0.20	0.37	3	5	56
	13-24	10-20	1.40-1.60	0.20-6.00	0.03-0.09	Low	0.8-1.0	0.10	0.32			
	24-60	5-10	1.50-1.70	6.00-20.00	0.02-0.05	Low	0.0-0.5	0.05	0.24			
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.55	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	0.0-0.5	0.10	0.64			
	12-22	---	---	---	---		---	---	---			
Coser	0-4	28-35	1.25-1.40	0.20-0.60	0.12-0.18	Moderate	2.0-3.0	0.17	0.32	3	7	38
	4-22	50-60	1.20-1.40	0.00-0.06	0.10-0.16	High	1.0-2.0	0.17	0.37			
	22-28	45-55	1.30-1.45	0.00-0.06	0.14-0.17	High	0.5-1.0	0.32	0.37			
	28-61	---	---	0.00-0.01	---		---	---	---			
880:												
Heckison	0-6	17-23	1.20-1.35	0.20-0.60	0.16-0.18	Low	2.0-3.0	0.43	0.49	2	6	48
	6-28	24-35	1.20-1.40	0.06-0.20	0.16-0.19	Moderate	1.0-2.0	0.32	0.37			
	28-33	10-20	1.25-1.45	0.60-2.00	0.09-0.17	Low	0.0-0.5	0.32	0.49			
	33-39	---	---	---	---		---	---	---			
	39-43	---	---	---	---		---	---	---			
Xerxes	0-2	3-10	1.50-1.70	6.00-20.00	0.03-0.04	Low	1.0-3.0	0.05	0.24	2	8	---
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
881:												
Gochea	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
Chayson	0-3	15-25	1.10-1.30	0.60-2.00	0.16-0.18	Low	2.0-4.0	0.28	0.32	2	5	56
	3-20	24-34	1.30-1.45	0.20-0.60	0.14-0.16	Moderate	1.0-3.0	0.32	0.37			
	20-36	24-34	1.30-1.45	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.24	0.32			
	36-60	---	---	---	---		---	---	---			
Pamison	0-13	18-25	1.15-1.30	0.60-2.00	0.11-0.15	Low	2.0-4.0	0.20	0.37	3	5	56
	13-24	10-20	1.40-1.60	0.20-6.00	0.03-0.09	Low	0.8-1.0	0.10	0.32			
	24-60	5-10	1.50-1.70	6.00-20.00	0.02-0.05	Low	0.0-0.5	0.05	0.24			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
930:												
Orovada	0-12	10-15	1.35-1.50	0.60-2.00	0.18-0.20	Low	0.9-2.0	0.49	0.49	5	5	56
	12-19	5-18	1.40-1.55	0.60-2.00	0.15-0.17	Low	0.5-1.0	0.43	0.49			
	19-65	5-18	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.43	0.49			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
Orovada	0-12	10-15	1.35-1.50	0.60-2.00	0.15-0.17	Low	0.9-2.0	0.49	0.49	5	3	86
	12-19	5-18	1.40-1.55	0.60-2.00	0.15-0.17	Low	0.5-1.0	0.43	0.49			
	19-65	5-18	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.43	0.49			
931:												
Orovada	0-12	10-15	1.35-1.50	0.60-2.00	0.18-0.20	Low	0.9-2.0	0.49	0.49	5	5	56
	12-19	5-18	1.40-1.55	0.60-2.00	0.15-0.17	Low	0.5-1.0	0.43	0.49			
	19-65	5-18	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.43	0.49			
Oupico	0-4	6-15	1.35-1.50	2.00-6.00	0.11-0.13	Low	1.0-2.0	0.24	0.24	2	3	86
	4-25	8-18	1.40-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.5	0.24	0.37			
	25-49	---	---	0.00-0.01	---		---	---	---			
	49-62	5-10	1.55-1.75	0.20-0.60	0.12-0.14	Low	0.0-0.5	0.32	0.37			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
932:												
Orovada	0-12	10-15	1.35-1.50	0.60-2.00	0.18-0.20	Low	0.9-2.0	0.49	0.49	5	5	56
	12-19	5-18	1.40-1.55	0.60-2.00	0.15-0.17	Low	0.5-1.0	0.43	0.49			
	19-65	5-18	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.43	0.49			
Xipe	0-3	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	3.0-5.0	0.37	0.37	3	6	48
	3-26	18-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.5-4.0	0.37	0.37			
	26-60	0-5	1.50-1.70	>20.00	0.03-0.07	Low	0.5-2.0	0.05	0.10			
Ocala	0-8	15-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.7-1.0	0.43	0.43	5	4L	86
	8-46	18-35	1.25-1.45	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	46-60	5-10	1.40-1.55	0.06-0.20	0.15-0.17	Low	0.0-0.5	0.32	0.49			
940:												
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			
Anowell	0-2	18-25	1.30-1.50	0.60-2.00	0.12-0.15	Moderate	0.0-2.0	0.24	0.43	1	5	56
	2-6	25-35	1.35-1.55	0.20-0.60	0.14-0.18	Moderate	0.0-1.0	0.20	0.32			
	6-10	---	---	0.00-0.06	---		---	---	---			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
941:												
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
941 (con.):												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
942:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
Anowell	0-2	18-25	1.30-1.50	0.60-2.00	0.12-0.15	Moderate	0.0-2.0	0.24	0.43	1	5	56
	2-6	25-35	1.35-1.55	0.20-0.60	0.14-0.18	Moderate	0.0-1.0	0.20	0.32			
	6-10	---	---	0.00-0.06	---		---	---	---			
943:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
944:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Peeko	0-2	18-27	1.30-1.50	0.60-2.00	0.18-0.20	Moderate	1.0-2.0	0.32	0.43	1	4L	86
	2-5	18-27	1.35-1.55	0.60-2.00	0.13-0.18	Moderate	0.5-1.0	0.28	0.55			
	5-10	18-27	1.40-1.60	0.60-2.00	0.12-0.15	Moderate	0.5-1.0	0.24	0.43			
	10-35	---	---	0.00-0.01	---		---	---	---			
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			
945:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
946:												
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
947:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Kelk	0-12	18-27	1.15-1.30	0.60-2.00	0.19-0.21	Moderate	1.0-2.0	0.55	0.55	5	6	48
	12-50	18-27	1.40-1.60	0.06-0.20	0.19-0.21	Moderate	0.0-0.5	0.49	0.49			
	50-63	18-27	1.40-1.60	0.60-2.00	0.18-0.20	Moderate	0.0-0.5	0.49	0.49			
Hundraw	0-3	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			
948:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Puett	0-6	10-20	1.30-1.50	2.00-6.00	0.09-0.11	Low	0.5-1.0	0.15	0.28	2	4	86
	6-11	5-10	1.35-1.55	2.00-6.00	0.08-0.15	Low	0.0-0.5	0.15	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
Trinidad	0-2	18-27	1.05-1.25	0.60-2.00	0.12-0.18	Low	2.0-4.0	0.24	0.43	2	5	56
	2-13	18-27	1.05-1.25	0.60-2.00	0.12-0.18	Low	2.0-4.0	0.28	0.49			
	13-21	---	---	0.00-20.00	---		---	---	---			
	21-31	---	---	0.00-0.01	---		---	---	---			
949:												
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Quopant	0-5	10-15	1.20-1.40	2.00-6.00	0.06-0.08	Low	2.0-4.0	0.10	0.32	2	5	56
	5-14	18-30	1.15-1.30	0.20-0.60	0.08-0.11	Low	1.0-3.0	0.05	0.37			
	14-18	10-20	1.35-1.55	2.00-6.00	0.07-0.11	Low	0.5-1.0	0.17	0.17			
	18-28	---	---	0.00-0.01	---		---	---	---			
Shalper	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
961:												
Trinidad	0-2	18-27	1.05-1.25	0.60-2.00	0.12-0.18	Low	2.0-4.0	0.24	0.43	2	5	56
	2-13	18-27	1.05-1.25	0.60-2.00	0.12-0.18	Low	2.0-4.0	0.28	0.49			
	13-21	---	---	0.00-20.00	---		---	---	---			
	21-31	---	---	0.00-0.01	---		---	---	---			
Trinidad	0-2	18-27	1.05-1.25	0.60-2.00	0.12-0.18	Low	2.0-4.0	0.24	0.43	2	5	56
	2-13	18-27	1.05-1.25	0.60-2.00	0.12-0.18	Low	2.0-4.0	0.28	0.49			
	13-21	---	---	0.00-20.00	---		---	---	---			
	21-31	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
961 (con.):												
Izod	0-2	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Moderate	1.0-2.0	0.15	0.55	1	6	48
	2-10	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.5-1.0	0.10	0.43			
	10-14	---	---	0.00-0.01	---		---	---	---			
970:												
Hunewill	0-6	12-20	1.30-1.45	0.60-2.00	0.11-0.14	Low	1.0-2.0	0.24	0.43	2	6	48
	6-20	25-35	1.30-1.50	0.20-0.60	0.12-0.15	Low	0.5-1.0	0.10	0.37			
	20-61	0-2	1.50-1.70	6.00-20.00	0.04-0.05	Low	0.0-0.5	0.02	0.15			
Bilbo	0-2	15-25	1.25-1.40	0.60-2.00	0.09-0.11	Low	1.0-3.0	0.15	0.49	3	7	38
	2-32	35-50	1.25-1.45	0.06-0.20	0.07-0.09	Moderate	0.5-1.0	0.05	0.37			
	32-60	5-15	1.40-1.60	6.00-20.00	0.03-0.06	Low	0.5-1.0	0.05	0.20			
Devilsgait	0-9	15-25	1.20-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	4L	86
	9-61	20-35	1.25-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.32	0.32			
980:												
Boso	0-9	18-27	1.20-1.35	0.60-2.00	0.15-0.17	Moderate	2.0-4.0	0.37	0.49	1	4L	86
	9-19	18-27	1.30-1.50	0.60-2.00	0.09-0.10	Low	0.8-2.0	0.10	0.43			
	19-34	---	---	0.00-0.01	---		---	---	---			
	34-40	10-18	1.45-1.65	0.60-2.00	0.13-0.15	Low	0.0-0.1	0.17	0.43			
	40-54	10-18	1.45-1.65	2.00-6.00	0.06-0.07	Low	0.0-0.1	0.05	0.24			
Dewar	0-2	18-25	1.15-1.25	0.60-2.00	0.13-0.17	Moderate	1.0-2.0	0.37	0.43	1	7	38
	2-14	27-35	1.20-1.35	0.20-0.60	0.12-0.16	Moderate	0.5-1.0	0.37	0.43			
	14-60	---	---	0.00-0.01	---		---	---	---			
990:												
Bluehill	0-9	1-10	0.90-0.95	2.00-6.00	0.18-0.20	Low	2.0-4.0	0.55	0.55	3	3	86
	9-26	1-10	1.00-1.05	2.00-6.00	0.15-0.20	Low	0.5-2.0	0.64	0.64			
	26-30	---	---	---	---		---	---	---			
Tomsherry	0-10	5-10	1.00-1.15	2.00-6.00	0.12-0.17	Low	1.0-2.0	0.43	0.49	2	3	86
	10-20	5-15	1.05-1.25	2.00-6.00	0.12-0.17	Low	0.5-2.0	0.49	0.49			
	20-33	---	---	0.00-0.06	---		---	---	---			
	33-60	5-10	1.00-1.20	2.00-6.00	0.10-0.14	Low	0.0-0.5	0.55	0.64			
Xerxes	0-2	3-10	1.50-1.70	6.00-20.00	0.03-0.04	Low	1.0-3.0	0.05	0.24	2	8	---
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			
1010:												
Agassiz	0-2	20-27	1.10-1.25	0.60-2.00	0.06-0.11	Low	1.0-3.0	0.10	0.37	1	7	38
	2-11	20-27	1.10-1.25	0.60-2.00	0.03-0.07	Low	0.8-2.0	0.05	0.32			
	11-21	---	---	---	---		---	---	---			
Croesus	0-3	10-18	1.30-1.45	0.60-2.00	0.05-0.07	Low	2.0-4.0	0.05	0.43	2	8	---
	3-18	10-18	1.30-1.45	0.60-2.00	0.03-0.07	Low	1.0-3.0	0.05	0.32			
	18-28	10-18	1.35-1.50	0.60-2.00	0.03-0.07	Low	1.0-2.0	0.05	0.32			
	28-38	---	---	0.00-0.01	---		---	---	---			
Rubble Land	0-60	---	1.70-2.35	>20.00	0.00-0.10	Low	0.0-0.1	---	---	5	8	---
1040:												
Gravier	0-4	8-18	1.45-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.8	0.20	0.37	4	5	56
	4-50	8-18	1.30-1.50	2.00-6.00	0.04-0.10	Low	0.0-0.5	0.05	0.28			
	50-60	0-5	1.40-1.60	6.00-20.00	0.02-0.04	Low	0.0-0.5	0.05	0.24			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1040 (con.):												
Shafter	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.15	Low	0.5-1.0	0.20	0.37	1	6	48
	3-14	8-18	1.40-1.60	2.00-6.00	0.10-0.18	Low	0.0-0.5	0.24	0.43			
	14-30	---	---	0.00-0.01	---		---	---	---			
	30-61	0-8	1.50-1.70	0.60-2.00	0.01-0.04	Low	0.0-0.5	0.05	0.24			
Toano	0-8	10-18	1.35-1.55	0.20-6.00	0.14-0.16	Low	0.5-1.0	0.64	0.64	4	4L	86
	8-31	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	31-46	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	46-61	3-10	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
1041:												
Gravier	0-4	8-18	1.45-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.8	0.20	0.37	4	5	56
	4-50	8-18	1.30-1.50	2.00-6.00	0.04-0.10	Low	0.0-0.5	0.05	0.28			
	50-60	0-5	1.40-1.60	6.00-20.00	0.02-0.04	Low	0.0-0.5	0.05	0.24			
Wiffo	0-8	10-18	1.40-1.60	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.10	0.32	3	6	48
	8-27	8-15	1.55-1.70	2.00-6.00	0.04-0.06	Low	0.5-1.0	0.05	0.32			
	27-60	5-15	1.55-1.70	6.00-20.00	0.03-0.06	Low	0.0-0.5	0.05	0.32			
1042:												
Gravier	0-4	8-18	1.45-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.10	0.32	4	5	56
	4-50	8-18	1.30-1.50	2.00-6.00	0.04-0.10	Low	0.0-0.5	0.05	0.28			
	50-60	0-5	1.40-1.60	6.00-20.00	0.02-0.04	Low	0.0-0.5	0.05	0.24			
Pibler	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
1043:												
Gravier	0-4	8-18	1.45-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.8	0.20	0.37	4	5	56
	4-50	8-18	1.30-1.50	2.00-6.00	0.04-0.10	Low	0.0-0.5	0.05	0.28			
	50-60	0-5	1.40-1.60	6.00-20.00	0.02-0.04	Low	0.0-0.5	0.05	0.24			
Luap	0-3	8-18	1.40-1.55	2.00-6.00	0.07-0.09	Low	0.3-0.8	0.15	0.32	3	5	56
	3-23	8-18	1.45-1.65	0.60-2.00	0.08-0.12	Low	0.0-0.5	0.15	0.43			
	23-37	2-8	1.50-1.70	>20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
	37-44	---	---	0.00-0.01	---		---	---	---			
	44-61	2-8	1.55-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
1050:												
Pibler	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
Pibler	0-3	10-18	1.30-1.50	0.60-2.00	0.13-0.16	Low	1.0-2.0	0.17	0.43	1	5	56
	3-14	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	14-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1051:												
Pibler----------	0-5	10-20	1.35-1.55	2.00-6.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	6	48
	5-11	8-18	1.35-1.55	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	11-22	---	---	---	---		---	---	---			
	22-47	5-15	1.55-1.75	6.00-20.00	0.03-0.07	Low	0.0-0.5	0.05	0.32			
	47-57	---	---	---	---		---	---	---			
Pibler----------	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
1052:												
Pibler----------	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
Gravier----------	0-4	8-18	1.45-1.60	0.60-2.00	0.13-0.15	Low	0.0-0.8	0.20	0.37	4	5	56
	4-50	8-18	1.30-1.50	2.00-6.00	0.04-0.10	Low	0.0-0.5	0.05	0.28			
	50-60	0-5	1.40-1.60	6.00-20.00	0.02-0.04	Low	0.0-0.5	0.05	0.24			
1054:												
Pibler----------	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
Wiffo----------	0-8	10-18	1.40-1.60	0.60-2.00	0.09-0.11	Low	1.0-2.0	0.10	0.32	3	6	48
	8-27	8-15	1.55-1.70	2.00-6.00	0.04-0.06	Low	0.5-1.0	0.05	0.32			
	27-60	5-15	1.55-1.70	6.00-20.00	0.03-0.06	Low	0.0-0.5	0.05	0.32			
1055:												
Pibler----------	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
Gravier----------	0-4	8-18	1.45-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.10	0.32	4	5	56
	4-50	8-18	1.30-1.50	2.00-6.00	0.04-0.10	Low	0.0-0.5	0.05	0.28			
	50-60	0-5	1.40-1.60	6.00-20.00	0.02-0.04	Low	0.0-0.5	0.05	0.24			
Izar----------	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
1056:												
Pibler----------	0-3	10-20	1.35-1.55	0.60-2.00	0.08-0.11	Low	1.0-2.0	0.15	0.37	1	6	48
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
Valmy----------	0-6	5-15	1.35-1.55	2.00-6.00	0.13-0.15	Low	0.5-1.0	0.32	0.37	5	3	86
	6-60	5-15	1.40-1.55	2.00-6.00	0.09-0.13	Low	0.0-0.5	0.28	0.37			
1060:												
Kzin----------	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1060 (con.):												
Holborn	0-3	18-27	1.30-1.50	0.60-2.00	0.11-0.15	Moderate	1.0-2.0	0.17	0.32	1	5	56
	3-7	18-30	1.25-1.45	0.20-0.60	0.11-0.17	Moderate	0.5-1.0	0.20	0.37			
	7-17	---	---	0.00-0.01	---		---	---	---			
Kzin	0-3	12-20	1.30-1.50	0.60-2.00	0.06-0.07	Low	2.0-3.0	0.10	0.32	1	5	56
	3-6	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	6-10	---	---	0.00-0.01	---		---	---	---			
1062:												
Kzin	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	5	56
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
Jackpot	0-4	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	2.0-3.0	0.20	0.24	2	3	86
	4-11	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	0.5-2.0	0.20	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
1064:												
Kzin	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
Golsum	0-3	27-32	1.15-1.35	0.20-0.60	0.08-0.13	Moderate	2.0-3.0	0.15	0.49	3	7	38
	3-16	35-50	1.20-1.40	0.20-0.60	0.06-0.10	Moderate	1.0-2.0	0.10	0.37			
	16-26	35-45	1.20-1.40	0.20-0.60	0.06-0.10	Moderate	0.5-1.0	0.10	0.37			
	26-32	---	---	0.00-0.01	---		---	---	---			
Golsum	0-2	27-32	1.15-1.35	0.20-0.60	0.08-0.13	Moderate	2.0-3.0	0.15	0.49	3	7	38
	2-12	35-50	1.20-1.40	0.20-0.60	0.06-0.10	Moderate	1.0-2.0	0.10	0.37			
	12-21	35-45	1.20-1.40	0.20-0.60	0.06-0.10	Moderate	0.5-1.0	0.10	0.37			
	21-30	---	---	0.00-0.01	---		---	---	---			
1070:												
Loray	0-12	10-20	1.35-1.55	0.60-2.00	0.10-0.15	Low	0.0-1.0	0.10	0.43	2	5	56
	12-61	0-8	1.50-1.65	>20.00	0.03-0.05	Low	0.0-0.5	0.05	0.20			
Luap	0-3	8-18	1.40-1.55	2.00-6.00	0.07-0.09	Low	0.3-0.8	0.15	0.32	3	5	56
	3-23	8-18	1.45-1.65	0.60-2.00	0.08-0.12	Low	0.0-0.5	0.15	0.43			
	23-37	2-8	1.50-1.70	>20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
	37-44	---	---	0.00-0.01	---		---	---	---			
	44-61	2-8	1.55-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
Toano	0-8	10-18	1.35-1.55	0.20-6.00	0.14-0.16	Low	0.5-1.0	0.64	0.64	4	4L	86
	8-31	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	31-46	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	46-61	3-10	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
1071:												
Loray	0-12	0-10	1.45-1.60	6.00-20.00	0.07-0.10	Low	0.0-0.5	0.20	0.24	3	2	134
	12-61	0-8	1.50-1.65	>20.00	0.03-0.05	Low	0.0-0.5	0.05	0.20			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1071 (con.):												
Luap	0-3	8-18	1.40-1.55	2.00-6.00	0.07-0.09	Low	0.3-0.8	0.15	0.32	3	5	56
	3-23	8-18	1.45-1.65	0.60-2.00	0.08-0.12	Low	0.0-0.5	0.15	0.43			
	23-37	2-8	1.50-1.70	>20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
	37-44	---	---	0.00-0.01	---		---	---	---			
	44-61	2-8	1.55-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.02	0.15			
1072:												
Loray	0-12	0-10	1.45-1.60	6.00-20.00	0.07-0.10	Low	0.0-0.5	0.20	0.24	3	2	134
	12-61	0-8	1.50-1.65	>20.00	0.03-0.05	Low	0.0-0.5	0.05	0.20			
Loray	0-12	10-20	1.35-1.55	0.60-2.00	0.10-0.15	Low	0.0-1.0	0.10	0.43	2	5	56
	12-61	0-8	1.50-1.65	>20.00	0.03-0.05	Low	0.0-0.5	0.05	0.20			
Hardhat	0-5	8-18	1.30-1.50	0.60-2.00	0.18-0.20	Low	0.5-1.0	0.43	0.49	5	4L	86
	5-17	8-18	1.20-1.40	0.60-2.00	0.15-0.19	Low	0.0-0.5	0.43	0.49			
	17-32	5-15	1.50-1.70	0.20-0.60	0.11-0.16	Low	0.0-0.5	0.32	0.49			
	32-60	5-15	1.50-1.70	0.20-0.60	0.05-0.11	Low	0.0-0.5	0.17	0.32			
1120:												
Ashart	0-3	5-15	1.10-1.30	0.60-2.00	0.16-0.18	Low	2.0-3.0	0.20	0.24	2	3	86
	3-7	10-20	1.10-1.30	0.60-2.00	0.17-0.20	Low	1.0-2.0	0.20	0.32			
	7-15	20-35	1.15-1.35	0.20-0.60	0.21-0.24	Moderate	0.5-1.0	0.24	0.43			
	15-25	---	---	0.00-0.01	---		---	---	---			
Zark	0-5	5-15	0.75-0.95	2.00-6.00	0.25-0.50	Low	2.0-3.0	0.32	0.32	3	2	134
	5-29	5-15	0.75-0.95	2.00-6.00	0.25-0.50	Low	0.5-1.0	0.32	0.37			
	29-35	5-15	0.90-1.10	2.00-6.00	0.19-0.43	Low	0.5-1.0	0.20	0.37			
	35-45	---	---	0.00-0.01	---		---	---	---			
1140:												
Elocin	0-6	18-25	1.10-1.30	0.60-2.00	0.14-0.17	Moderate	1.0-3.0	0.24	0.43	3	7	38
	6-10	25-35	1.10-1.30	0.20-0.60	0.18-0.20	Moderate	1.0-2.0	0.32	0.55			
	10-25	50-60	1.15-1.30	0.00-0.06	0.06-0.09	Moderate	0.5-1.0	0.10	0.37			
	25-36	50-60	1.20-1.35	0.00-0.06	0.11-0.13	High	0.5-1.0	0.15	0.28			
	36-60	10-20	1.40-1.60	0.20-0.60	0.16-0.18	Low	0.0-0.5	0.37	0.55			
Stampede	0-5	20-25	1.30-1.40	0.60-2.00	0.16-0.19	Moderate	1.0-3.0	0.43	0.49	2	7	38
	5-27	40-55	1.20-1.35	0.00-0.06	0.14-0.16	High	0.5-1.0	0.28	0.32			
	27-60	---	---	0.00-0.01	---		---	---	---			
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			
1141:												
Elocin	0-6	18-25	1.10-1.30	0.60-2.00	0.14-0.17	Moderate	1.0-3.0	0.24	0.43	3	7	38
	6-10	25-35	1.10-1.30	0.20-0.60	0.18-0.20	Moderate	1.0-2.0	0.32	0.55			
	10-25	50-60	1.15-1.30	0.00-0.06	0.06-0.09	Moderate	0.5-1.0	0.10	0.37			
	25-36	50-60	1.20-1.35	0.00-0.06	0.11-0.13	High	0.5-1.0	0.15	0.28			
	36-60	10-20	1.40-1.60	0.20-0.60	0.16-0.18	Low	0.0-0.5	0.37	0.55			
Donna	0-8	15-25	1.25-1.35	0.60-2.00	0.18-0.20	Low	1.0-3.0	0.37	0.43	2	6	48
	8-22	60-70	1.15-1.35	0.00-0.06	0.14-0.16	High	0.5-2.0	0.20	0.24			
	22-38	---	---	0.00-0.01	---		---	---	---			
	38-68	15-25	1.45-1.65	2.00-6.00	0.04-0.06	Low	0.0-0.5	0.20	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1190:												
Tweener---------	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	6	48
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
Shalper---------	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
1191:												
Tweener---------	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	7	38
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
Tweener---------	0-6	15-20	1.25-1.45	0.60-2.00	0.07-0.10	Low	1.0-2.0	0.10	0.37	1	7	38
	6-10	25-40	1.30-1.50	0.20-0.60	0.07-0.12	Low	1.0-2.0	0.10	0.49			
	10-14	---	---	0.00-0.01	---		---	---	---			
Graley----------	0-9	10-18	1.30-1.50	0.60-2.00	0.08-0.12	Low	2.0-4.0	0.17	0.55	1	7	38
	9-15	35-45	1.25-1.40	0.06-0.20	0.08-0.10	Moderate	1.0-2.0	0.15	0.49			
	15-19	---	---	0.00-0.01	---		---	---	---			
1200:												
Xerxes----------	0-2	3-10	1.50-1.70	6.00-20.00	0.03-0.04	Low	1.0-3.0	0.05	0.24	2	8	---
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			
Bluehill--------	0-9	1-10	0.90-0.95	2.00-6.00	0.18-0.20	Low	2.0-4.0	0.55	0.55	3	3	86
	9-26	1-10	1.00-1.05	2.00-6.00	0.15-0.20	Low	0.5-2.0	0.64	0.64			
	26-30	---	---	---	---		---	---	---			
1201:												
Xerxes----------	0-2	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	1.0-3.0	0.17	0.32	2	5	56
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			
Zark------------	0-5	5-15	0.75-0.95	2.00-6.00	0.25-0.50	Low	2.0-3.0	0.32	0.32	3	2	134
	5-29	5-15	0.75-0.95	2.00-6.00	0.25-0.50	Low	0.5-1.0	0.32	0.37			
	29-35	5-15	0.90-1.10	2.00-6.00	0.19-0.43	Low	0.5-1.0	0.20	0.37			
	35-45	---	---	0.00-0.01	---		---	---	---			
Ashart----------	0-3	5-15	1.10-1.30	0.60-2.00	0.16-0.18	Low	2.0-3.0	0.20	0.24	2	3	86
	3-7	10-20	1.10-1.30	0.60-2.00	0.17-0.20	Low	1.0-2.0	0.20	0.32			
	7-15	20-35	1.15-1.35	0.20-0.60	0.21-0.24	Moderate	0.5-1.0	0.24	0.43			
	15-25	---	---	0.00-0.01	---		---	---	---			
1203:												
Xerxes----------	0-2	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	1.0-3.0	0.17	0.32	2	5	56
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1203 (con.):												
Xerxes----------	0-2	3-10	1.50-1.70	6.00-20.00	0.03-0.04	Low	1.0-3.0	0.05	0.24	2	8	---
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			
Shalper---------	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
1204:												
Xerxes----------	0-2	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	1.0-3.0	0.17	0.32	2	5	56
	2-5	8-15	1.40-1.60	2.00-6.00	0.07-0.12	Low	0.5-1.0	0.20	0.43			
	5-10	8-15	1.40-1.60	2.00-6.00	0.06-0.08	Low	0.0-0.5	0.17	0.32			
	10-20	---	---	0.00-0.01	---		---	---	---			
Shalper---------	0-9	18-26	1.25-1.45	0.60-2.00	0.10-0.12	Low	2.0-4.0	0.10	0.32	1	7	38
	9-12	24-35	1.30-1.50	0.20-0.60	0.06-0.15	Low	1.0-2.0	0.10	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Bluehill--------	0-9	1-10	0.90-0.95	2.00-6.00	0.18-0.20	Low	2.0-4.0	0.55	0.55	3	3	86
	9-26	1-10	1.00-1.05	2.00-6.00	0.15-0.20	Low	0.5-2.0	0.64	0.64			
	26-30	---	---	---	---		---	---	---			
1400:												
Nevador---------	0-6	10-18	1.35-1.50	0.60-2.00	0.12-0.14	Low	1.0-2.0	0.24	0.43	5	6	48
	6-24	25-35	1.30-1.50	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.32	0.43			
	24-61	5-15	1.40-1.60	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.24	0.37			
Zapa------------	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
2000:												
Shuttle---------	0-6	8-18	1.30-1.45	0.60-2.00	0.18-0.20	Low	0.5-1.0	0.55	0.64	3	4L	86
	6-19	8-18	1.30-1.50	0.60-2.00	0.15-0.19	Low	0.0-0.8	0.55	0.64			
	19-45	5-15	1.50-1.70	0.20-0.60	0.14-0.18	Low	0.0-0.5	0.55	0.64			
	45-60	---	---	0.00-0.01	---		---	---	---			
Shafter---------	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.15	Low	0.5-1.0	0.20	0.37	1	6	48
	3-14	8-18	1.40-1.60	2.00-6.00	0.10-0.18	Low	0.0-0.5	0.24	0.43			
	14-30	---	---	0.00-0.01	---		---	---	---			
	30-61	0-8	1.50-1.70	0.60-2.00	0.01-0.04	Low	0.0-0.5	0.05	0.24			
Loray-----------	0-12	10-20	1.35-1.55	0.60-2.00	0.10-0.15	Low	0.0-1.0	0.10	0.43	2	5	56
	12-61	0-8	1.50-1.65	>20.00	0.03-0.05	Low	0.0-0.5	0.05	0.20			
2001:												
Shuttle---------	0-6	8-18	1.30-1.45	0.60-2.00	0.18-0.20	Low	0.5-1.0	0.55	0.64	3	4L	86
	6-19	8-18	1.30-1.50	0.60-2.00	0.15-0.19	Low	0.0-0.8	0.55	0.64			
	19-45	5-15	1.50-1.70	0.20-0.60	0.14-0.18	Low	0.0-0.5	0.55	0.64			
	45-60	---	---	0.00-0.01	---		---	---	---			
Hardhat---------	0-5	8-18	1.30-1.50	0.60-2.00	0.18-0.20	Low	0.5-1.0	0.43	0.49	5	4L	86
	5-17	8-18	1.20-1.40	0.60-2.00	0.15-0.19	Low	0.0-0.5	0.43	0.49			
	17-32	5-15	1.50-1.70	0.20-0.60	0.11-0.16	Low	0.0-0.5	0.32	0.49			
	32-60	5-15	1.50-1.70	0.20-0.60	0.05-0.11	Low	0.0-0.5	0.17	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
2001 (con.):												
Shuttle---	0-5	8-15	1.30-1.45	0.60-2.00	0.18-0.20	Low	0.5-1.0	0.55	0.64	5	4L	86
	5-15	8-18	1.30-1.50	0.60-2.00	0.15-0.19	Low	0.0-0.8	0.55	0.64			
	15-42	5-15	1.50-1.70	0.20-0.60	0.13-0.17	Low	0.0-0.5	0.55	0.64			
	42-61	5-15	1.40-1.60	0.60-2.00	0.07-0.13	Low	0.0-0.3	0.17	0.32			
2010:												
Wiffo Variant---	0-17	14-20	1.50-1.70	2.00-6.00	0.03-0.05	Low	0.5-1.0	0.05	0.43	5	8	---
	17-60	10-18	1.50-1.70	2.00-6.00	0.03-0.05	Low	0.0-0.5	0.05	0.43			
2030:												
Cavehill---	0-9	18-27	1.05-1.20	0.60-2.00	0.12-0.14	Low	4.0-6.0	0.15	0.43	2	6	48
	9-33	18-27	1.10-1.30	0.60-2.00	0.08-0.11	Low	1.0-2.0	0.17	0.43			
	33-37	---	---	0.00-0.01	---		---	---	---			
Nirac---	0-10	10-18	1.20-1.35	0.60-2.00	0.12-0.18	Low	2.0-3.0	0.28	0.43	2	5	56
	10-36	15-25	1.15-1.30	0.60-2.00	0.07-0.14	Low	0.5-1.0	0.10	0.37			
	36-40	---	---	0.00-0.01	---		---	---	---			
Gollaher---	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	6	48
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
2040:												
Sodhouse---	0-7	10-18	1.40-1.55	0.60-2.00	0.15-0.17	Low	0.0-0.5	0.32	0.49	1	6	48
	7-14	10-18	1.40-1.55	0.60-2.00	0.13-0.16	Low	0.0-0.5	0.28	0.49			
	14-38	---	---	0.00-0.01	---		---	---	---			
	38-61	2-15	1.45-1.65	0.60-2.00	0.07-0.11	Low	0.0-0.5	0.24	0.28			
Loray---	0-12	10-20	1.35-1.55	0.60-2.00	0.10-0.15	Low	0.0-1.0	0.10	0.43	2	5	56
	12-61	0-8	1.50-1.65	>20.00	0.03-0.05	Low	0.0-0.5	0.05	0.20			
2042:												
Sodhouse---	0-7	10-18	1.40-1.55	0.60-2.00	0.15-0.17	Low	0.0-0.5	0.32	0.49	1	6	48
	7-14	10-18	1.40-1.55	0.60-2.00	0.13-0.16	Low	0.0-0.5	0.28	0.49			
	14-38	---	---	0.00-0.01	---		---	---	---			
	38-61	2-15	1.45-1.65	0.60-2.00	0.07-0.11	Low	0.0-0.5	0.24	0.28			
Pibler---	0-3	10-20	1.35-1.55	2.00-6.00	0.06-0.09	Low	1.0-2.0	0.10	0.24	1	5	56
	3-10	8-18	1.40-1.60	2.00-6.00	0.06-0.10	Low	0.5-1.0	0.10	0.32			
	10-48	---	---	---	---		---	---	---			
	48-61	0-5	1.60-1.80	>20.00	0.01-0.03	Low	0.0-0.5	0.02	0.15			
2050:												
Hopeka---	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
Tecomar---	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
2051:												
Rock Outcrop.												
Hopeka---	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
Kzin---	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
2053:												
Hopeka	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
Tecomar	0-5	18-27	1.30-1.45	0.60-2.00	0.03-0.06	Low	1.0-2.0	0.17	0.43	1	8	---
	5-15	20-27	1.30-1.45	0.60-2.00	0.04-0.09	Low	0.0-0.8	0.10	0.64			
	15-25	---	---	0.00-0.01	---		---	---	---			
Nirac	0-10	10-18	1.20-1.35	0.60-2.00	0.12-0.18	Low	2.0-3.0	0.28	0.43	2	5	56
	10-36	15-25	1.15-1.30	0.60-2.00	0.07-0.14	Low	0.5-1.0	0.10	0.37			
	36-40	---	---	0.00-0.01	---		---	---	---			
2054:												
Rock Outcrop.												
Hopeka	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
2060:												
Appian	0-3	10-20	1.35-1.55	2.00-6.00	0.13-0.15	Low	0.0-0.8	0.32	0.32	2	3	86
	3-8	30-35	1.45-1.65	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.32	0.32			
	8-11	20-25	1.50-1.65	2.00-6.00	0.13-0.15	Moderate	0.0-0.5	0.20	0.20			
	11-60	0-8	1.55-1.70	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.10	0.15			
Kawich	0-3	0-5	1.50-1.65	>20.00	0.05-0.07	Low	0.0-0.5	0.15	0.15	5	1	250
	3-60	0-5	1.50-1.65	>20.00	0.05-0.07	Low	0.0-0.5	0.15	0.15			
Kawich	0-6	5-15	1.45-1.65	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.37	0.37	5	3	86
	6-70	0-5	1.50-1.65	>20.00	0.05-0.07	Low	0.0-0.5	0.15	0.15			
2070:												
Kawich	0-6	5-15	1.45-1.65	2.00-6.00	0.11-0.13	Low	0.0-0.5	0.37	0.37	5	3	86
	6-60	0-5	1.50-1.65	>20.00	0.05-0.07	Low	0.0-0.5	0.15	0.15			
Kawich	0-4	0-5	1.50-1.65	>20.00	0.05-0.07	Low	0.0-0.5	0.15	0.15	5	1	250
	4-60	0-5	1.50-1.65	>20.00	0.05-0.07	Low	0.0-0.5	0.15	0.15			
Ixian	0-12	20-27	1.40-1.60	0.60-2.00	0.19-0.21	Moderate	0.0-0.5	0.49	0.49	5	4L	86
	12-42	25-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	42-63	30-45	1.45-1.65	0.06-0.20	0.15-0.17	Moderate	0.0-0.5	0.32	0.32			
2080:												
Toano	0-5	8-15	1.35-1.55	0.60-2.00	0.14-0.16	Low	0.5-1.0	0.64	0.64	5	4L	86
	5-31	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	31-60	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
Toano	0-8	10-18	1.35-1.55	0.20-6.00	0.14-0.16	Low	0.5-1.0	0.64	0.64	4	4L	86
	8-31	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	31-46	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	46-61	3-10	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
2081:												
Toano	0-5	8-15	1.35-1.55	0.60-2.00	0.14-0.16	Low	0.5-1.0	0.64	0.64	5	4L	86
	5-31	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	31-60	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
Tulase	0-6	8-18	1.35-1.50	0.60-2.00	0.15-0.17	Low	1.0-2.0	0.43	0.43	4	3	86
	6-47	8-18	1.30-1.50	0.60-2.00	0.15-0.21	Low	0.5-1.0	0.55	0.55			
	47-60	28-35	1.30-1.50	0.06-0.20	0.10-0.12	Moderate	0.0-0.5	0.10	0.32			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
2090:												
Toano	0-8	10-18	1.35-1.55	0.20-6.00	0.14-0.16	Low	0.5-1.0	0.64	0.64	4	4L	86
	8-31	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	31-46	8-15	1.40-1.60	0.60-2.00	0.14-0.16	Low	0.0-0.5	0.55	0.55			
	46-61	3-10	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.05	0.32			
Enko	0-4	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	4-18	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	18-25	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	25-60	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
	60-80	10-18	1.40-1.50	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
Sondoa	0-4	20-27	1.35-1.50	0.20-0.60	0.19-0.21	Moderate	0.5-2.0	0.49	0.49	5	4L	86
	4-63	25-35	1.40-1.55	0.20-0.60	0.19-0.21	Moderate	0.5-1.0	0.49	0.49			
3001:												
Ixian	0-12	20-27	1.40-1.60	0.60-2.00	0.19-0.21	Moderate	0.0-0.5	0.49	0.49	5	4L	86
	12-42	25-35	1.40-1.60	0.20-0.60	0.19-0.21	Moderate	0.0-0.5	0.43	0.43			
	42-63	30-45	1.45-1.65	0.06-0.20	0.15-0.17	Moderate	0.0-0.5	0.32	0.32			
Valmy	0-6	5-15	1.35-1.55	2.00-6.00	0.13-0.15	Low	0.5-1.0	0.32	0.37	4	3	86
	6-60	5-15	1.40-1.55	2.00-6.00	0.09-0.13	Low	0.0-0.5	0.28	0.37			
3008:												
Tecomar	0-5	18-27	1.30-1.45	0.60-2.00	0.03-0.07	Low	1.0-2.0	0.17	0.64	1	8	---
	5-15	20-27	1.30-1.45	0.60-2.00	0.04-0.09	Low	0.0-0.8	0.10	0.64			
	15-25	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			
Kram	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	7	38
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
3009:												
Tecomar	0-5	18-27	1.30-1.45	0.60-2.00	0.03-0.07	Low	1.0-2.0	0.17	0.64	1	8	---
	5-15	20-27	1.30-1.45	0.60-2.00	0.04-0.09	Low	0.0-0.8	0.10	0.64			
	15-25	---	---	0.00-0.01	---		---	---	---			
Shalcleav	0-4	15-20	1.15-1.30	0.60-2.00	0.03-0.08	Low	2.0-4.0	0.10	0.55	1	8	---
	4-9	25-30	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.15	0.55			
	9-12	35-45	1.30-1.45	0.06-0.20	0.02-0.06	Moderate	1.0-2.0	0.15	0.37			
	12-16	---	---	0.00-0.01	---		---	---	---			
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	7	38
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			
3010:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Hopeka	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
Gollaher	0-2	15-27	1.05-1.20	0.60-2.00	0.06-0.10	Low	2.0-4.0	0.10	0.37	1	7	38
	2-6	15-27	1.05-1.20	0.60-2.00	0.04-0.09	Low	0.5-2.0	0.05	0.43			
	6-10	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
3012:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Kram	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.64	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	---	0.10	0.64			
	12-22	---	---	---	---		---	---	---			
3013:												
Rock Outcrop.												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Hopeka	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
3014:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Kzin	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
Hopeka	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
3015:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Kzin	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
3016:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
3017:												
Tecomar	0-5	18-27	1.30-1.45	0.60-2.00	0.03-0.06	Low	1.0-2.0	0.17	0.43	1	8	---
	5-15	20-27	1.30-1.45	0.60-2.00	0.04-0.09	Low	0.0-0.8	0.10	0.64			
	15-25	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
3017 (con.):												
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.55	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	---	0.10	0.64			
	12-22	---	---	---	---		---	---	---			
Shivlum	0-11	18-23	1.10-1.25	0.60-2.00	0.19-0.21	Moderate	2.0-4.0	0.37	0.37	5	6	48
	11-60	25-35	1.25-1.45	0.20-0.60	0.19-0.21	Moderate	0.8-2.0	0.28	0.28			
3018:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Nirac	0-10	10-18	1.20-1.35	0.60-2.00	0.12-0.18	Low	2.0-3.0	0.28	0.43	2	5	56
	10-36	15-25	1.15-1.30	0.60-2.00	0.07-0.14	Low	0.5-1.0	0.10	0.37			
	36-40	---	---	0.00-0.01	---		---	---	---			
Kram	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
3019:												
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Hopeka	0-9	18-27	1.15-1.25	0.60-2.00	0.04-0.07	Low	1.0-2.0	0.20	0.43	1	6	48
	9-13	---	---	0.00-0.01	---		---	---	---			
Ekim	0-9	20-27	1.25-1.45	0.60-2.00	0.13-0.17	Low	2.0-4.0	0.24	0.43	2	5	56
	9-25	20-30	1.30-1.50	0.60-2.00	0.09-0.11	Low	0.5-1.0	0.20	0.43			
	25-33	---	---	0.00-0.01	---		---	---	---			
3020:												
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.55	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	0.0-0.5	0.10	0.64			
	12-22	---	---	---	---		---	---	---			
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
Kzin	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
3021:												
Rock Outcrop.												
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.64	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	0.0-0.5	0.10	0.64			
	12-16	---	---	---	---		---	---	---			
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
3023:												
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.55	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	0.0-0.5	0.10	0.64			
	12-22	---	---	---	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
3023 (con.):												
Jericho	0-7	10-18	1.30-1.50	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.15	0.32	1	4	86
	7-17	10-18	1.35-1.55	2.00-6.00	0.06-0.08	Low	0.5-1.0	0.05	0.20			
	17-31	---	---	---	---		---	---	---			
	31-60	5-10	1.45-1.65	2.00-6.00	0.06-0.10	Low	0.0-0.5	0.10	0.24			
Tecomar	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
3025:												
Amtoft	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.55	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	0.0-0.5	0.10	0.64			
	12-22	---	---	---	---		---	---	---			
Arcia	0-9	18-27	1.05-1.20	0.60-2.00	0.18-0.21	Moderate	3.0-5.0	0.24	0.24	2	6	48
	9-17	30-40	1.15-1.30	0.20-0.60	0.18-0.21	High	2.0-3.0	0.24	0.32			
	17-32	40-60	1.20-1.40	0.06-0.20	0.09-0.14	High	1.0-2.0	0.15	0.24			
	32-42	---	---	0.00-0.01	---		---	---	---			
Kram	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
3030:												
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
Izar	0-5	18-25	1.15-1.25	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.15	0.55	1	6	48
	5-11	18-25	1.20-1.30	0.60-2.00	0.05-0.11	Low	0.0-1.0	0.10	0.43			
	11-15	---	---	0.00-0.01	---		---	---	---			
Jackpot	0-4	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	2.0-3.0	0.20	0.24	2	3	86
	4-11	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	0.5-2.0	0.20	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
3031:												
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
Hundraw	0-2	8-18	1.40-1.55	2.00-6.00	0.10-0.13	Low	0.5-1.0	0.15	0.28	1	4	86
	2-5	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	5-9	---	---	0.00-0.01	---		---	---	---			
Jackpot	0-4	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	2.0-3.0	0.20	0.24	2	3	86
	4-11	5-10	0.80-1.00	0.20-0.60	0.25-0.50	Low	0.5-2.0	0.20	0.24			
	11-15	---	---	0.00-0.01	---		---	---	---			
3032:												
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
3032 (con.):												
Anowell	0-1	18-25	1.30-1.50	0.60-2.00	0.12-0.15	Moderate	0.0-2.0	0.24	0.43	1	5	56
	1-6	25-35	1.35-1.55	0.20-0.60	0.14-0.18	Moderate	0.0-1.0	0.20	0.32			
	6-10	---	---	0.00-0.06	---		---	---	---			
3033:												
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-33	---	---	0.00-0.06	---		---	---	---			
Hundraw	0-3	8-18	1.40-1.55	0.60-2.00	0.11-0.14	Low	0.5-1.0	0.17	0.43	1	5	56
	3-8	8-18	1.40-1.55	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.20	0.32			
	8-12	---	---	0.00-0.01	---		---	---	---			
Zapa	0-12	15-20	1.30-1.50	0.60-2.00	0.09-0.14	Low	1.0-2.0	0.17	0.49	2	7	38
	12-25	10-20	1.55-1.70	0.60-2.00	0.04-0.08	Low	0.0-0.5	0.10	0.24			
	25-42	---	---	0.00-0.01	---		---	---	---			
	42-60	10-20	1.60-1.75	0.60-2.00	0.02-0.05	Low	0.0-0.5	0.02	0.15			
3036:												
Cobre	0-6	15-25	1.10-1.25	0.60-2.00	0.21-0.28	Moderate	1.0-2.0	0.43	0.49	3	4L	86
	6-13	15-25	1.15-1.30	0.60-2.00	0.19-0.28	Moderate	0.5-1.0	0.37	0.43			
	13-29	8-18	1.15-1.30	0.60-2.00	0.17-0.25	Low	0.0-0.5	0.37	0.43			
	29-62	---	---	0.00-0.06	---		---	---	---			
Enko	0-3	10-18	1.35-1.45	2.00-6.00	0.11-0.15	Low	1.0-2.0	0.43	0.49	5	3	86
	3-15	10-18	1.40-1.50	2.00-6.00	0.12-0.17	Low	0.5-1.0	0.43	0.49			
	15-26	10-18	1.55-1.65	0.60-2.00	0.12-0.17	Low	0.0-0.5	0.43	0.49			
	26-62	10-18	1.65-1.70	0.06-0.20	0.10-0.13	Low	0.0-0.5	0.37	0.43			
3040:												
Player	0-10	20-26	1.10-1.30	0.60-2.00	0.11-0.17	Moderate	2.0-5.0	0.20	0.37	3	7	38
	10-47	45-60	1.20-1.40	0.00-0.06	0.04-0.08	Moderate	0.5-2.0	0.05	0.20			
	47-62	36-48	1.30-1.45	0.20-0.60	0.09-0.13	Moderate	0.0-0.5	0.10	0.28			
McIvey	0-13	20-27	1.05-1.20	0.60-2.00	0.12-0.15	Moderate	2.0-5.0	0.15	0.43	5	7	38
	13-18	20-27	1.15-1.35	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.15	0.37			
	18-23	30-40	1.25-1.45	0.20-0.60	0.12-0.17	Moderate	0.5-1.0	0.10	0.43			
	23-62	40-50	1.25-1.40	0.00-0.06	0.07-0.10	Moderate	0.5-1.0	0.05	0.37			
Hogmalat	0-3	12-20	1.25-1.40	0.60-2.00	0.06-0.08	Low	2.0-3.0	0.10	0.32	1	7	38
	3-10	24-34	1.15-1.35	0.20-0.60	0.08-0.12	Moderate	1.0-2.0	0.10	0.28			
	10-14	---	---	---	---		---	---	---			
3070:												
Arva	0-15	20-27	1.05-1.20	0.60-2.00	0.10-0.15	Moderate	3.0-5.0	0.17	0.32	4	7	38
	15-44	45-60	1.25-1.40	0.00-0.06	0.09-0.14	High	1.0-3.0	0.10	0.37			
	44-54	---	---	0.00-0.01	---		---	---	---			
Chen	0-6	20-27	1.10-1.25	0.60-2.00	0.08-0.12	Low	2.0-3.0	0.10	0.32	1	7	38
	6-12	40-55	1.25-1.40	0.00-0.06	0.05-0.09	Moderate	0.5-2.0	0.10	0.49			
	12-16	---	---	0.00-0.01	---		---	---	---			
Sumine	0-9	10-20	1.20-1.40	0.60-2.00	0.09-0.12	Low	2.0-4.0	0.17	0.43	2	7	38
	9-26	25-35	1.40-1.60	0.60-2.00	0.08-0.12	Low	0.5-2.0	0.15	0.55			
	26-30	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
3080:												
Fenelon---	0-6	18-25	1.05-1.20	0.60-2.00	0.13-0.15	Low	2.0-4.0	0.17	0.55	3	7	38
	6-37	27-35	1.10-1.30	0.20-0.60	0.13-0.17	Moderate	0.5-2.0	0.15	0.32			
	37-47	---	---	0.00-0.01	---		---	---	---			
Lerrow Variant--	0-4	20-27	1.05-1.20	0.60-2.00	0.11-0.15	Moderate	3.0-5.0	0.20	0.32	3	7	38
	4-27	45-55	1.20-1.35	0.00-0.06	0.10-0.16	High	2.0-3.0	0.15	0.37			
	27-51	45-55	1.15-1.30	0.00-0.06	0.10-0.16	High	1.0-2.0	0.15	0.37			
	51-61	15-20	1.40-1.55	2.00-6.00	0.02-0.05	Low	0.5-1.0	0.05	0.43			
Cotant---	0-3	27-40	1.10-1.30	0.20-0.60	0.13-0.16	Moderate	1.0-2.0	0.20	0.37	2	5	56
	3-12	40-60	1.25-1.45	0.06-0.20	0.14-0.16	High	0.5-2.0	0.24	0.28			
	12-16	---	---	0.00-0.01	---		---	---	---			
3081:												
Fenelon---	0-6	18-25	1.05-1.20	0.60-2.00	0.13-0.15	Low	2.0-4.0	0.17	0.55	3	7	38
	6-37	27-35	1.10-1.30	0.20-0.60	0.13-0.17	Moderate	0.5-2.0	0.15	0.32			
	37-47	---	---	0.00-0.01	---		---	---	---			
Gochea---	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
3100:												
Kleckner---	0-7	15-25	1.10-1.30	0.60-2.00	0.19-0.21	Moderate	2.0-3.0	0.37	0.43	5	5	56
	7-11	40-50	1.25-1.45	0.06-0.20	0.11-0.13	High	1.0-2.0	0.15	0.28			
	11-42	35-50	1.25-1.45	0.06-0.20	0.08-0.12	Moderate	0.5-1.0	0.05	0.37			
	42-60	5-10	1.50-1.70	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.05	0.24			
Stampede---	0-5	20-25	1.30-1.40	0.60-2.00	0.16-0.19	Moderate	1.0-3.0	0.43	0.49	2	7	38
	5-27	40-55	1.20-1.35	0.00-0.06	0.14-0.16	High	0.5-1.0	0.28	0.32			
	27-60	---	---	0.00-0.01	---		---	---	---			
4000:												
Wicup---	0-10	27-35	1.15-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.37	0.43	3	7	38
	10-18	35-50	1.30-1.50	0.06-0.20	0.12-0.16	High	0.5-1.0	0.32	0.43			
	18-30	35-50	1.30-1.50	0.06-0.20	0.12-0.16	High	0.5-0.8	0.32	0.49			
	30-61	---	---	0.00-0.01	---		---	---	---			
Anowell---	0-2	18-25	1.30-1.50	0.60-2.00	0.12-0.15	Moderate	0.0-2.0	0.24	0.43	1	5	56
	2-6	25-35	1.35-1.55	0.20-0.60	0.14-0.18	Moderate	0.0-1.0	0.20	0.32			
	6-10	---	---	0.00-0.06	---		---	---	---			
Kzin---	0-3	15-25	1.25-1.45	0.60-2.00	0.09-0.11	Low	2.0-3.0	0.15	0.49	1	6	48
	3-8	15-25	1.30-1.50	0.60-2.00	0.06-0.09	Low	0.5-2.0	0.15	0.49			
	8-12	---	---	0.00-0.01	---		---	---	---			
4001:												
Wicup---	0-10	27-35	1.15-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.37	0.43	3	7	38
	10-18	35-50	1.30-1.50	0.06-0.20	0.12-0.16	High	0.5-1.0	0.32	0.43			
	18-30	35-50	1.30-1.50	0.06-0.20	0.12-0.16	High	0.5-0.8	0.32	0.49			
	30-61	---	---	0.00-0.01	---		---	---	---			
Fenelon---	0-6	18-25	1.05-1.20	0.60-2.00	0.13-0.15	Low	2.0-4.0	0.17	0.55	3	7	38
	6-37	27-35	1.10-1.30	0.20-0.60	0.13-0.17	Moderate	0.5-2.0	0.15	0.32			
	37-47	---	---	0.00-0.01	---		---	---	---			
Akler---	0-6	18-25	1.20-1.40	0.60-2.00	0.14-0.16	Moderate	1.0-2.0	0.43	0.43	2	6	48
	6-18	50-60	1.20-1.35	0.06-0.20	0.07-0.11	High	0.5-1.0	0.28	0.32			
	18-22	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
4002:												
Wicup----------	0-10	27-35	1.15-1.35	0.20-0.60	0.19-0.21	Moderate	1.0-3.0	0.37	0.43	3	6	48
	10-18	35-50	1.30-1.50	0.06-0.20	0.12-0.16	High	0.5-1.0	0.32	0.43			
	18-30	35-50	1.30-1.50	0.06-0.20	0.12-0.16	High	0.5-0.8	0.32	0.49			
	30-61	---	---	0.00-0.01	---		---	---	---			
Gochea----------	0-11	10-20	1.35-1.50	0.60-2.00	0.14-0.17	Low	1.0-2.0	0.37	0.43	4	5	56
	11-25	25-35	1.30-1.50	0.20-0.60	0.12-0.18	Moderate	1.0-2.0	0.17	0.28			
	25-53	10-15	1.50-1.70	2.00-6.00	0.09-0.13	Low	0.5-1.0	0.28	0.43			
	53-75	2-5	1.55-1.75	6.00-20.00	0.03-0.05	Low	0.5-1.0	0.10	0.20			
Gumble----------	0-4	15-20	1.30-1.50	2.00-6.00	0.07-0.10	Low	1.0-2.0	0.15	0.37	2	4	86
	4-16	40-60	1.20-1.40	0.06-0.20	0.14-0.16	High	0.5-1.0	0.20	0.28			
	16-20	---	---	0.00-0.01	---		---	---	---			
4020:												
Akler----------	0-7	18-27	1.20-1.40	0.60-2.00	0.07-0.11	Low	1.0-2.0	0.17	0.55	2	7	38
	7-18	50-60	1.20-1.35	0.06-0.20	0.07-0.10	High	0.5-1.0	0.28	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Cleavage--------	0-7	15-25	1.15-1.35	0.60-2.00	0.12-0.14	Low	1.0-3.0	0.10	0.32	1	7	38
	7-18	20-35	1.25-1.45	0.20-0.60	0.10-0.12	Low	0.5-1.0	0.10	0.49			
	18-22	---	---	0.00-0.01	---		---	---	---			
Elocin----------	0-6	18-25	1.10-1.30	0.60-2.00	0.14-0.17	Moderate	1.0-3.0	0.24	0.43	3	7	38
	6-10	25-35	1.10-1.30	0.20-0.60	0.18-0.20	Moderate	1.0-2.0	0.32	0.55			
	10-25	50-60	1.15-1.30	0.00-0.06	0.06-0.09	Moderate	0.5-1.0	0.10	0.37			
	25-36	50-60	1.20-1.35	0.00-0.06	0.11-0.13	High	0.5-1.0	0.15	0.28			
	36-60	10-20	1.40-1.60	0.20-0.60	0.16-0.18	Low	0.0-0.5	0.37	0.55			
4040:												
Kram----------	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
Amtoft----------	0-3	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	1.0-2.0	0.10	0.55	1	8	---
	3-12	15-25	1.30-1.45	0.60-2.00	0.05-0.07	Low	0.0-0.5	0.10	0.64			
	12-22	---	---	---	---		---	---	---			
Nirac----------	0-10	10-18	1.20-1.35	0.60-2.00	0.12-0.18	Low	2.0-3.0	0.28	0.43	2	5	56
	10-36	15-25	1.15-1.30	0.60-2.00	0.07-0.14	Low	0.5-1.0	0.10	0.37			
	36-40	---	---	0.00-0.01	---		---	---	---			
4041:												
Kram----------	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
Tecomar---------	0-7	18-27	1.30-1.45	0.60-2.00	0.04-0.08	Low	1.0-2.0	0.20	0.64	1	8	---
	7-19	18-27	1.30-1.45	0.60-2.00	0.04-0.10	Low	0.0-0.8	0.10	0.64			
	19-29	---	---	0.00-0.01	---		---	---	---			
4042:												
Kram----------	0-3	8-18	1.35-1.50	0.60-2.00	0.10-0.13	Low	1.0-2.0	0.15	0.49	1	6	48
	3-9	8-18	1.40-1.55	0.60-2.00	0.04-0.09	Low	0.5-1.0	0.10	0.37			
	9-13	---	---	0.00-0.01	---		---	---	---			
Hooplite--------	0-6	12-22	1.35-1.50	2.00-6.00	0.07-0.10	Low	0.6-2.0	0.17	0.55	1	6	48
	6-9	22-30	1.30-1.50	0.60-2.00	0.08-0.11	Low	0.5-1.0	0.15	0.49			
	9-13	---	---	0.00-0.01	---		---	---	---			

TABLE 10.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
4042 (con.):												
Yuko----------	0-4	5-15	1.25-1.45	2.00-6.00	0.08-0.11	Low	1.0-2.0	0.10	0.32	2	4	86
	4-8	30-40	1.35-1.50	0.20-0.60	0.18-0.20	Moderate	0.5-2.0	0.28	0.32			
	8-10	35-45	1.35-1.50	0.20-0.60	0.15-0.20	High	0.5-2.0	0.28	0.28			
	10-14	---	---	0.00-0.01	---		---	---	---			

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
10:								
Yuko	0-4	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---
Akler	0-6	18-25	15.0-20.0	6.6-7.8	---	---	---	---
	6-18	50-60	30.0-35.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
20:								
Donna	0-11	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	11-21	60-70	35.0-40.0	6.6-7.3	---	---	---	---
	21-41	---	---	---	---	---	---	---
	41-60	15-25	10.0-15.0	7.4-8.4	0-5	---	0-2	1-5
Igdell	0-2	27-35	20.0-25.0	6.6-7.8	---	---	---	---
	2-31	45-60	25.0-35.0	6.6-7.8	---	---	---	---
	31-37	20-35	15.0-20.0	7.4-8.4	0-5	---	0-2	1-5
	37-45	---	---	---	---	---	---	---
Vanwyper	0-8	18-25	13.0-19.0	6.6-7.3	---	---	---	---
	8-35	35-55	28.0-45.0	6.6-7.8	---	---	---	---
	35-39	---	---	---	---	---	---	---
21:								
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
Stampede	0-5	20-25	15.0-25.0	6.1-7.3	---	---	---	---
	5-27	40-55	25.0-35.0	6.6-7.8	---	---	---	---
	27-60	---	---	---	---	---	---	---
22:								
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
Igdell	0-2	27-35	20.0-25.0	6.6-7.8	---	---	---	---
	2-31	45-60	25.0-35.0	6.6-7.8	---	---	---	---
	31-37	20-35	15.0-20.0	7.4-8.4	0-5	---	0-2	1-5
	37-45	---	---	---	---	---	---	---
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
23:								
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
Kleckner	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-33	35-50	20.0-35.0	7.4-7.8	---	---	---	---
	33-42	35-50	20.0-30.0	7.4-7.8	---	---	---	---
	42-60	10-20	5.0-10.0	7.4-7.8	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
23 (con.):								
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
31:								
Welch	0-14	15-20	25.0-35.0	6.1-7.3	---	---	---	---
	14-62	27-35	20.0-40.0	6.1-7.8	---	---	---	---
Crooked Creek	0-7	30-40	25.0-35.0	6.6-7.8	---	---	---	---
	7-40	35-50	25.0-40.0	6.6-7.8	---	---	---	---
	40-60	3-10	1.0-10.0	6.6-7.8	---	---	---	---
32:								
Welch	0-14	30-35	45.0-55.0	6.1-7.3	---	---	---	---
	14-62	27-35	20.0-40.0	6.1-7.8	---	---	---	---
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
34:								
Welch	0-14	15-20	15.0-20.0	6.1-7.3	---	---	---	---
	14-62	27-35	25.0-35.0	6.1-7.8	---	---	---	---
Crooked Creek	0-18	30-40	25.0-35.0	6.6-8.4	---	---	0-2	---
	18-61	35-50	25.0-40.0	6.6-8.4	---	---	0-2	---
35:								
Welch	0-5	15-20	15.0-25.0	6.1-7.3	---	---	---	---
	5-41	27-35	25.0-35.0	6.1-7.8	---	---	---	---
	41-61	5-14	5.0-10.0	6.6-7.8	---	---	---	---
Welch	0-5	15-20	15.0-25.0	6.1-7.3	---	---	---	---
	5-41	27-35	25.0-35.0	6.1-7.8	---	---	---	---
	41-61	5-14	5.0-10.0	6.6-7.8	---	---	---	---
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
40:								
McIvey	0-13	20-27	15.0-25.0	6.6-7.3	---	---	---	---
	13-18	20-27	15.0-20.0	6.6-7.3	---	---	---	---
	18-23	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	23-62	40-50	25.0-35.0	6.1-7.3	---	---	---	---
Quarz	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
60:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
60 (con.):								
Arva	0-15	20-27	18.0-28.0	6.6-7.3	---	---	---	---
	15-44	45-60	38.0-54.0	6.6-7.3	---	---	---	---
	44-54	---	---	---	---	---	---	---
Lerrow	0-10	20-25	15.0-20.0	6.6-7.3	---	---	---	---
	10-16	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	16-24	40-55	25.0-30.0	6.6-7.8	---	---	---	---
	24-28	---	---	---	---	---	---	---
70:								
Stampede	0-5	20-25	15.0-25.0	6.1-7.3	---	---	---	---
	5-27	40-55	25.0-35.0	6.6-7.8	---	---	---	---
	27-60	---	---	---	---	---	---	---
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
72:								
Stampede	0-5	20-25	15.0-25.0	6.1-7.3	---	---	---	---
	5-27	40-55	25.0-35.0	6.6-7.8	---	---	---	---
	27-60	---	---	---	---	---	---	---
Simon	0-13	10-20	10.0-18.0	6.6-7.3	---	---	---	---
	13-43	27-35	16.0-23.0	6.6-7.3	---	---	---	---
	43-60	20-26	12.0-16.0	6.6-7.3	---	---	---	---
Arva	0-15	20-27	18.0-28.0	6.6-7.3	---	---	---	---
	15-44	45-60	38.0-54.0	6.6-7.3	---	---	---	---
	44-54	---	---	---	---	---	---	---
80:								
Wieland	0-8	8-22	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	8-22	40-55	25.0-45.0	7.4-9.0	0-5	---	0-4	2-12
	22-28	27-35	15.0-30.0	7.9-9.0	5-20	---	0-8	2-12
	28-64	10-20	5.0-15.0	7.9-9.0	5-20	---	0-8	2-12
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
81:								
Wieland	0-8	20-25	15.0-30.0	7.4-8.4	---	---	0-2	---
	8-22	45-50	30.0-60.0	7.4-9.0	---	---	0-4	---
	22-44	10-15	20.0-40.0	7.9-9.0	0-20	---	0-8	---
	44-64	2-8	5.0-10.0	7.9-9.0	5-10	---	0-8	0-5
Gance	0-5	20-25	15.0-25.0	6.6-8.4	---	---	---	---
	5-20	35-55	20.0-45.0	7.4-8.4	0-10	---	0-4	---
	20-60	10-20	5.0-15.0	7.9-9.0	10-25	---	0-8	---
Nevador	0-6	8-18	10.0-20.0	6.6-7.8	---	---	---	---
	6-24	25-35	20.0-25.0	6.6-8.4	1-5	---	2-4	1-5
	24-61	5-15	5.0-10.0	7.4-9.0	1-5	---	2-8	5-12

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
82:								
Wieland---------	0-8	20-25	15.0-30.0	7.4-8.4	---	---	0-2	---
	8-22	45-50	30.0-60.0	7.4-9.0	---	---	0-4	---
	22-44	10-15	20.0-40.0	7.9-9.0	0-20	---	0-8	---
	44-64	2-8	5.0-10.0	7.9-9.0	5-10	---	0-8	0-5
Hunnton---------	0-8	20-27	14.0-26.0	7.9-8.4	---	---	0-4	0-5
	8-22	45-55	28.0-46.0	7.4-8.4	0-5	---	0-4	1-12
	22-36	---	---	---	---	---	---	---
	36-60	2-10	1.0-8.0	7.9-9.0	1-5	---	0-4	5-30
Hunewill--------	0-6	12-20	10.0-18.0	6.6-7.3	---	---	---	---
	6-20	25-35	19.0-27.0	6.6-7.8	---	---	---	---
	20-61	0-2	0.0-2.0	6.6-7.8	---	---	---	---
83:								
Wieland---------	0-8	20-25	15.0-30.0	7.4-8.4	---	---	0-2	---
	8-22	45-50	30.0-60.0	7.4-9.0	---	---	0-4	---
	22-44	10-15	20.0-40.0	7.9-9.0	0-20	---	0-8	---
	44-64	2-8	5.0-10.0	7.9-9.0	5-10	---	0-8	0-5
Nevador---------	0-6	8-18	10.0-20.0	6.6-7.8	---	---	---	---
	6-24	25-35	20.0-25.0	6.6-8.4	1-5	---	2-4	1-5
	24-61	5-15	5.0-10.0	7.4-9.0	1-5	---	2-8	5-12
Donna-----------	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
90:								
Hunnton---------	0-8	20-27	14.0-26.0	7.9-8.4	---	---	0-4	0-5
	8-22	45-55	28.0-46.0	7.4-8.4	0-5	---	0-4	1-12
	22-36	---	---	---	---	---	---	---
	36-60	2-10	1.0-8.0	7.9-9.0	1-5	---	0-4	5-30
Chiara----------	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Bilbo-----------	0-2	25-35	18.0-29.0	6.6-7.8	---	---	---	---
	2-18	35-50	29.0-44.0	6.6-7.8	---	---	---	---
	18-32	35-50	29.0-42.0	6.6-7.8	---	---	---	---
	32-60	5-15	3.0-11.0	7.4-8.4	1-5	---	0-2	---
93:								
Hunnton---------	0-8	10-25	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	8-14	20-30	15.0-25.0	6.6-8.4	---	---	0-4	0-5
	14-22	40-55	35.0-55.0	7.4-8.4	0-5	---	0-4	1-5
	22-36	---	---	---	---	---	---	---
	36-60	2-10	1.0-10.0	7.9-9.0	15-40	---	0-4	1-12
Wieland---------	0-8	8-22	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	8-22	40-55	25.0-45.0	7.4-9.0	0-5	---	0-4	2-12
	22-28	27-35	15.0-30.0	7.9-9.0	5-20	---	0-8	2-12
	28-64	10-20	5.0-15.0	7.9-9.0	5-20	---	0-8	2-12

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
94:								
Hunnton---------	0-8	10-25	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	8-14	20-30	15.0-25.0	6.6-8.4	---	---	0-4	0-5
	14-22	40-55	35.0-55.0	7.4-8.4	0-5	---	0-4	1-5
	22-36	---	---	---	---	---	---	---
	36-60	2-10	1.0-10.0	7.9-9.0	15-40	---	0-4	1-12
Chiara----------	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Wieland---------	0-8	8-22	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	8-22	40-55	25.0-45.0	7.4-9.0	0-5	---	0-4	2-12
	22-28	27-35	15.0-30.0	7.9-9.0	5-20	---	0-8	2-12
	28-64	10-20	5.0-15.0	7.9-9.0	5-20	---	0-8	2-12
120:								
Peeko-----------	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Dewar-----------	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Puett-----------	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
121:								
Peeko-----------	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Dewar-----------	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Peeko-----------	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
123:								
Peeko-----------	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Oupico----------	0-4	10-15	8.0-16.0	7.9-8.4	1-5	---	0-2	1-5
	4-25	8-18	5.0-15.0	7.9-8.4	5-20	---	0-4	5-12
	25-49	---	---	---	---	---	---	---
	49-62	5-10	3.0-10.0	8.5-9.0	1-10	---	0-4	13-30
Dewar-----------	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
124:								
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Gance	0-5	20-25	15.0-25.0	6.6-8.4	---	---	---	---
	5-20	35-55	20.0-45.0	7.4-8.4	0-10	---	0-4	---
	20-60	10-20	5.0-15.0	7.9-9.0	10-25	---	0-8	---
125:								
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
126:								
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
127:								
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
129:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Chuska	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-10
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-10
	53-57	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
130:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Wieland	0-8	8-22	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	8-22	40-55	25.0-45.0	7.4-9.0	0-5	---	0-4	2-12
	22-28	27-35	15.0-30.0	7.9-9.0	5-20	---	0-8	2-12
	28-64	10-20	5.0-15.0	7.9-9.0	5-20	---	0-8	2-12
Bilbo	0-2	25-35	18.0-29.0	6.6-7.8	---	---	---	---
	2-18	35-50	29.0-44.0	6.6-7.8	---	---	---	---
	18-32	35-50	29.0-42.0	6.6-7.8	---	---	---	---
	32-60	5-15	3.0-11.0	7.4-8.4	1-5	---	0-2	---
131:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Hunnton	0-8	20-27	14.0-26.0	7.9-8.4	---	---	0-4	0-5
	8-22	45-55	28.0-46.0	7.4-8.4	0-5	---	0-4	1-12
	22-36	---	---	---	---	---	---	---
	36-60	2-10	1.0-8.0	7.9-9.0	1-5	---	0-4	5-30
Gance	0-5	20-25	15.0-25.0	6.6-8.4	---	---	---	---
	5-20	35-55	20.0-45.0	7.4-8.4	0-10	---	0-4	---
	20-60	10-20	5.0-15.0	7.9-9.0	10-25	---	0-8	---
132:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Bilbo	0-2	25-35	18.0-29.0	6.6-7.8	---	---	---	---
	2-18	35-50	29.0-44.0	6.6-7.8	---	---	---	---
	18-32	35-50	29.0-42.0	6.6-7.8	---	---	---	---
	32-60	5-15	3.0-11.0	7.4-8.4	1-5	---	0-2	---
133:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Hunnton	0-8	20-27	14.0-26.0	7.9-8.4	---	---	0-4	0-5
	8-22	45-55	28.0-46.0	7.4-8.4	0-5	---	0-4	1-12
	22-36	---	---	---	---	---	---	---
	36-60	2-10	1.0-8.0	7.9-9.0	1-5	---	0-4	5-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
135:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-30	---	---	---	---	---	---	---
	30-60	---	---	---	---	---	---	---
Yuko	0-4	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---
136:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Nevador	0-6	8-18	10.0-20.0	6.6-7.8	---	---	---	---
	6-24	25-35	20.0-25.0	6.6-8.4	1-5	---	2-4	1-5
	24-61	5-15	5.0-10.0	7.4-9.0	1-5	---	2-8	5-12
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---
137:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
138:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-30	---	---	---	---	---	---	---
	30-60	---	---	---	---	---	---	---
Jackpot	0-4	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	4-11	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	11-15	---	---	---	---	---	---	---
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-30	---	---	---	---	---	---	---
	30-60	---	---	---	---	---	---	---
139:								
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Yuko	0-4	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
139 (con.):								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
140:								
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Wieland	0-8	8-22	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	8-22	40-55	25.0-45.0	7.4-9.0	0-5	---	0-4	2-12
	22-28	27-35	15.0-30.0	7.9-9.0	5-20	---	0-8	2-12
	28-64	10-20	5.0-15.0	7.9-9.0	5-20	---	0-8	2-12
Enko	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
141:								
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
144:								
Chiara	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Enko	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
150:								
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Tusel	0-20	10-20	10.0-20.0	6.1-7.3	---	---	---	---
	20-42	25-35	20.0-30.0	6.1-7.3	---	---	---	---
	42-52	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
151:								
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Soughe	0-5	10-20	10.0-20.0	6.6-7.8	---	---	---	0-5
	5-14	25-35	15.0-30.0	6.6-8.4	---	---	0-2	0-5
	14-18	---	---	---	---	---	---	---
154:								
Rock Outcrop.								
Shalper	0-9	12-18	9.0-20.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Contact	0-18	3-10	5.0-12.0	7.4-8.4	0-1	---	---	---
	18-60	1-5	1.0-7.0	7.4-8.4	0-1	---	---	---
155:								
Rock Outcrop.								
Shalper	0-9	12-18	9.0-20.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Pequop	0-10	12-23	11.0-24.0	6.6-7.3	---	---	---	---
	10-60	20-35	14.0-27.0	6.6-7.8	---	---	---	---
156:								
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Yuko	0-2	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	2-6	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	6-8	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	8-12	---	---	---	---	---	---	---
160:								
Dacker	0-7	15-25	20.0-25.0	6.6-7.8	---	---	---	---
	7-11	27-35	25.0-35.0	7.4-8.4	---	---	0-4	0-5
	11-17	25-33	25.0-35.0	7.4-8.4	---	---	0-4	0-5
	17-22	18-25	20.0-25.0	7.9-9.0	1-10	---	4-8	1-12
	22-42	---	---	---	---	---	---	---
Nevador	0-6	8-18	10.0-20.0	6.6-7.8	---	---	---	---
	6-24	25-35	20.0-25.0	6.6-8.4	1-5	---	2-4	1-5
	24-61	5-15	5.0-10.0	7.4-9.0	1-5	---	2-8	5-12
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
161:								
Dacker----------	0-7	15-25	20.0-25.0	6.6-7.8	---	---	---	---
	7-11	27-35	25.0-35.0	7.4-8.4	---	---	0-4	0-5
	11-17	25-33	25.0-35.0	7.4-8.4	---	---	0-4	0-5
	17-22	18-25	20.0-25.0	7.9-9.0	1-10	---	4-8	1-12
	22-38	---	---	---	---	---	---	---
Yuko----------	0-4	10-20	5.0-15.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---
Wieland---------	0-8	8-22	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	8-22	40-55	25.0-45.0	7.4-9.0	0-5	---	0-4	2-12
	22-28	27-35	15.0-30.0	7.9-9.0	5-20	---	0-8	2-12
	28-64	10-20	5.0-15.0	7.9-9.0	5-20	---	0-8	2-12
163:								
Dacker----------	0-7	15-25	20.0-25.0	6.6-7.8	---	---	---	---
	7-11	27-35	25.0-35.0	7.4-8.4	---	---	0-4	0-5
	11-17	25-33	25.0-35.0	7.4-8.4	---	---	0-4	0-5
	17-22	18-25	20.0-25.0	7.9-9.0	1-10	---	4-8	1-12
	22-38	---	---	---	---	---	---	---
Chiara----------	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Peeko----------	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
170:								
Enko----------	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
Kelk----------	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
Enko----------	0-3	10-18	10.0-20.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-20.0	6.6-8.4	---	---	0-4	0-5
	15-26	10-18	5.0-20.0	7.4-9.0	1-5	---	0-8	1-12
	26-62	10-18	5.0-15.0	7.4-9.0	1-5	---	4-16	13-45
171:								
Enko----------	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
Chiara----------	0-4	10-18	15.0-28.0	6.6-8.4	---	---	0-2	0-5
	4-14	10-18	15.0-28.0	6.6-9.0	0-5	---	0-4	5-30
	14-18	---	---	---	---	---	---	---
Kelk----------	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
174:								
Enko	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
175:								
Wiffo	0-14	10-18	8.0-15.0	7.9-9.0	15-25	---	0-2	1-5
	14-53	8-15	5.0-11.0	7.9-9.0	15-25	---	0-2	1-5
	53-63	5-15	3.0-9.0	7.9-9.0	15-25	---	0-4	1-5
Nevador	0-6	8-18	10.0-20.0	6.6-7.8	---	---	---	---
	6-24	25-35	20.0-25.0	6.6-8.4	1-5	---	2-4	1-5
	24-61	5-15	5.0-10.0	7.4-9.0	1-5	---	2-8	5-12
180:								
Sonoma	0-8	20-27	15.0-20.0	7.9-9.0	3-12	---	0-4	1-5
	8-60	25-35	20.0-25.0	7.9-9.0	3-12	0-1	0-4	5-12
Devilsgait	0-9	12-20	15.0-20.0	7.9-9.0	1-5	---	0-4	---
	9-61	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
Sonoma	0-8	20-27	16.0-23.0	8.5-9.6	1-3	---	16-32	46-70
	8-60	25-35	18.0-29.0	7.9-9.0	1-5	0-1	2-16	13-45
182:								
Sonoma	0-6	27-35	15.0-25.0	9.1-9.6	3-12	---	2-4	1-5
	6-42	20-35	15.0-20.0	7.9-9.6	3-12	---	0-2	5-12
	42-60	40-50	25.0-30.0	7.9-9.6	3-12	---	0-2	5-12
Devilsgait	0-9	15-25	15.0-30.0	7.9-8.4	1-5	---	0-2	1-5
	9-61	20-35	15.0-35.0	7.9-8.4	0-5	---	0-2	1-5
Sonoma	0-8	20-27	15.0-25.0	7.4-8.4	3-12	---	2-8	5-12
	8-60	25-35	15.0-30.0	7.9-9.0	3-12	---	2-8	0-12
183:								
Sonoma	0-8	20-27	15.0-25.0	7.9-9.0	3-12	---	4-8	5-12
	8-60	25-35	20.0-30.0	7.9-9.0	3-12	---	0-4	0-12
Sonoma	0-8	20-27	15.0-25.0	7.4-8.4	3-12	---	2-8	5-12
	8-60	25-35	15.0-30.0	7.9-9.0	3-12	---	2-8	0-12
185:								
Sonoma	0-6	27-35	15.0-25.0	9.1-9.6	3-12	---	2-4	1-5
	6-42	20-35	15.0-20.0	7.9-9.6	3-12	---	0-2	5-12
	42-60	40-50	25.0-30.0	7.9-9.6	3-12	---	0-2	5-12
Ocala Variant	0-5	30-40	20.0-33.0	8.5-9.0	5-10	---	16-32	13-45
	5-61	45-60	28.0-48.0	7.9-9.0	5-25	0-1	0-4	13-30
186:								
Sondoa	0-4	20-27	10.0-25.0	8.5-9.6	15-30	---	0-4	46-90
	4-63	25-35	20.0-30.0	8.5-9.6	10-25	---	8-16	91-130

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
186 (con.):								
Ixian	0-12	20-27	12.0-16.0	8.5-9.0	10-30	---	4-8	13-30
	12-42	25-35	15.0-21.0	8.5-9.0	10-30	0-3	8-16	13-45
	42-63	30-45	18.0-27.0	8.5-9.0	10-30	2-5	8-32	13-45
Ixian	0-12	30-40	18.0-24.0	8.5-9.0	10-30	---	16-32	13-45
	12-42	25-35	15.0-21.0	8.5-9.0	10-30	0-3	8-16	13-45
	42-63	30-45	18.0-27.0	8.5-9.0	10-30	2-5	8-32	13-45
187:								
Sonoma	0-8	20-27	15.0-25.0	7.4-8.4	3-12	---	2-4	5-12
	8-60	25-35	15.0-30.0	7.9-9.0	3-12	---	2-8	0-12
Deleplain	0-8	10-20	8.0-16.0	7.9-8.4	1-5	---	0-2	1-5
	8-34	18-27	12.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	34-51	5-10	4.0-10.0	7.9-8.4	1-10	---	0-2	1-5
	51-60	5-10	4.0-8.0	7.4-7.8	1-10	---	0-2	---
Ocala	0-8	15-27	10.0-15.0	8.5-9.6	10-20	---	16-32	46-70
	8-46	18-35	10.0-20.0	8.5-9.0	15-25	1-5	4-16	13-45
	46-60	5-10	1.0-5.0	8.5-9.0	15-25	1-5	4-8	1-12
190:								
Forvic	0-13	30-40	15.0-30.0	6.6-7.3	---	---	---	---
	13-20	50-59	30.0-50.0	6.6-7.3	---	---	---	---
	20-22	50-59	30.0-50.0	6.6-7.3	---	---	---	---
	22-30	---	---	---	---	---	---	---
	30-34	---	---	---	---	---	---	---
Igdell	0-2	27-35	20.0-25.0	6.6-7.8	---	---	---	---
	2-31	45-60	25.0-35.0	6.6-7.8	---	---	---	---
	31-37	20-35	15.0-20.0	7.4-8.4	0-5	---	0-2	1-5
	37-45	---	---	---	---	---	---	---
191:								
Forvic	0-13	30-40	15.0-30.0	6.6-7.3	---	---	---	---
	13-20	50-59	30.0-50.0	6.6-7.3	---	---	---	---
	20-22	50-59	30.0-50.0	6.6-7.3	---	---	---	---
	22-30	---	---	---	---	---	---	---
	30-34	---	---	---	---	---	---	---
Chayson	0-3	15-25	10.0-20.0	7.4-7.8	---	---	---	---
	3-20	24-34	15.0-30.0	7.4-7.8	---	---	---	---
	20-36	24-34	15.0-30.0	7.9-9.0	15-30	---	2-4	2-12
	36-60	---	---	---	---	---	---	---
Igdell	0-2	27-35	20.0-25.0	6.6-7.8	---	---	---	---
	2-31	45-60	25.0-35.0	6.6-7.8	---	---	---	---
	31-37	20-35	15.0-20.0	7.4-8.4	0-5	---	0-2	1-5
	37-45	---	---	---	---	---	---	---
195:								
Chayson	0-3	15-25	10.0-20.0	7.4-7.8	---	---	---	---
	3-20	24-34	15.0-30.0	7.4-7.8	---	---	---	---
	20-36	24-34	15.0-30.0	7.9-9.0	15-30	---	2-4	2-12
	36-60	---	---	---	---	---	---	---
Igdell	0-2	27-35	20.0-25.0	6.6-7.8	---	---	---	---
	2-31	45-60	25.0-35.0	6.6-7.8	---	---	---	---
	31-37	20-35	15.0-20.0	7.4-8.4	0-5	---	0-2	1-5
	37-45	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
211:								
Crooked Creek---	0-18	30-40	25.0-35.0	6.6-8.4	---	---	0-2	---
	18-61	35-50	25.0-40.0	6.6-8.4	---	---	0-2	---
Crooked Creek---	0-18	20-27	20.0-35.0	6.6-8.4	---	---	0-2	---
	18-61	35-50	20.0-35.0	6.6-8.4	---	---	0-2	---
Welch-----------	0-14	27-40	25.0-35.0	6.1-7.3	---	---	---	---
	14-62	27-35	25.0-35.0	6.1-7.8	---	---	---	---
219:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Arcia-----------	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
220:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Cleavage--------	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Arcia-----------	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
221:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Cleavage--------	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
222:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Coser-----------	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
223:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Gollaher--------	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Hapgood---------	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
224:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Graley----------	0-9	18-27	15.0-25.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
Arcia-----------	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
225:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Rodie-----------	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
Lerrow----------	0-10	20-25	15.0-20.0	6.6-7.3	---	---	---	---
	10-16	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	16-24	40-55	25.0-30.0	6.6-7.8	---	---	---	---
	24-28	---	---	---	---	---	---	---
226:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Quopant---------	0-5	10-15	10.0-17.0	6.6-7.3	---	---	---	---
	5-14	18-30	13.0-24.0	7.4-7.8	---	---	---	---
	14-18	10-20	6.0-14.0	7.4-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Rodie-----------	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
227:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Rodie-----------	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
228:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Rodie-----------	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
Shalper---------	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
229:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Shalper---------	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Cleavage--------	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
232:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Quarz-----------	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
235:								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
235 (con.):								
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
236:								
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
McIvey	0-13	20-27	15.0-25.0	6.6-7.3	---	---	---	---
	13-18	20-27	15.0-20.0	6.6-7.3	---	---	---	---
	18-23	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	23-62	40-50	25.0-35.0	6.1-7.3	---	---	---	---
237:								
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Keman	0-38	14-18	8.0-20.0	5.1-6.5	---	---	---	---
	38-60	24-34	14.0-25.0	5.1-6.5	---	---	---	---
238:								
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
Arcia	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
239:								
Rock Outcrop.								
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
240:								
Gumble	0-4	15-20	11.0-16.0	6.6-7.8	---	---	---	---
	4-16	40-60	33.0-50.0	7.4-8.4	0-5	---	0-2	---
	16-20	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
240 (con.):								
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
250:								
Chuska	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-12
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-12
	53-57	---	---	---	---	---	---	---
Chuska	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-12
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-12
	53-57	---	---	---	---	---	---	---
Soughe	0-4	10-20	10.0-20.0	6.6-7.8	---	---	---	0-5
	4-11	25-35	15.0-30.0	6.6-8.4	---	---	0-2	0-5
	11-15	---	---	---	---	---	---	---
251:								
Chuska	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-12
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-12
	53-57	---	---	---	---	---	---	---
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
Enko	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
252:								
Chuska	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-12
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-12
	53-57	---	---	---	---	---	---	---
Jackpot	0-4	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	4-11	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	11-15	---	---	---	---	---	---	---
Soughe	0-4	10-20	10.0-20.0	6.6-7.8	---	---	---	0-5
	4-11	25-35	15.0-30.0	6.6-8.4	---	---	0-2	0-5
	11-15	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
253:								
Chuska----------	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-12
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-12
	53-57	---	---	---	---	---	---	---
Jackpot---------	0-4	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	4-11	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	11-15	---	---	---	---	---	---	---
Dewar-----------	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
260:								
Bancy-----------	0-7	27-40	15.0-30.0	7.4-7.8	---	---	---	---
	7-14	40-50	25.0-40.0	7.4-7.8	---	---	---	---
	14-18	40-50	25.0-40.0	7.9-8.4	0-5	---	0-2	0-2
	18-24	---	---	---	---	---	---	---
	24-28	---	---	---	---	---	---	---
Heckison--------	0-6	17-23	15.0-25.0	6.6-7.8	---	---	---	0-5
	6-28	24-35	20.0-30.0	6.6-8.4	0-10	---	0-2	2-12
	28-33	10-20	10.0-15.0	7.4-9.0	15-25	---	0-2	2-12
	33-39	---	---	---	---	---	---	---
	39-43	---	---	---	---	---	---	---
270:								
Cameek----------	0-2	20-25	15.0-25.0	7.4-7.8	---	---	0-2	---
	2-8	30-40	20.0-30.0	7.4-7.8	---	1-5	0-2	---
	8-19	40-60	25.0-35.0	7.4-7.8	---	1-5	0-2	---
	19-42	---	---	---	---	---	---	---
	42-60	10-15	5.0-10.0	7.4-7.8	---	1-10	0-2	---
Bilbo-----------	0-2	25-35	18.0-29.0	6.6-7.8	---	---	---	---
	2-18	35-50	29.0-44.0	6.6-7.8	---	---	---	---
	18-32	35-50	29.0-42.0	6.6-7.8	---	---	---	---
	32-60	5-15	3.0-11.0	7.4-8.4	1-5	---	0-2	---
Cameek----------	0-2	20-25	15.0-25.0	7.4-7.8	---	---	0-2	---
	2-8	30-40	20.0-30.0	7.4-7.8	---	1-5	0-2	---
	8-19	40-60	25.0-35.0	7.4-7.8	---	1-5	0-2	---
	19-42	---	---	---	---	---	---	---
	42-60	10-15	5.0-10.0	7.4-7.8	---	1-10	0-2	---
280:								
Quarz-----------	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
Shalper---------	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
281:								
Quarz	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
Cotant	0-3	27-40	25.0-35.0	6.6-7.8	---	---	---	---
	3-12	40-60	35.0-50.0	6.6-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
282:								
Quarz	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
Quarz	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
Arcia	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
290:								
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
Vadaho	0-6	20-27	16.0-22.0	7.4-7.8	---	---	---	---
	6-18	20-27	13.0-20.0	7.4-8.4	0-5	---	---	---
	18-38	---	---	---	---	---	---	---
	38-60	8-15	5.0-9.0	7.9-8.4	5-10	---	0-2	---
291:								
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
Simon	0-13	10-20	10.0-18.0	6.6-7.3	---	---	---	---
	13-43	27-35	16.0-23.0	6.6-7.3	---	---	---	---
	43-60	20-26	12.0-16.0	6.6-7.3	---	---	---	---
300:								
Ola	0-6	5-15	8.0-20.0	6.6-7.3	---	---	---	---
	6-29	5-15	4.0-15.0	6.1-7.3	---	---	---	---
	29-35	---	---	---	---	---	---	---
	35-39	---	---	---	---	---	---	---
Earcree	0-36	8-18	9.0-22.0	5.6-6.5	---	---	---	---
	36-60	5-15	3.0-13.0	6.1-7.3	---	---	---	---
Ola	0-6	5-15	8.0-20.0	6.6-7.3	---	---	---	---
	6-29	5-15	4.0-15.0	6.1-7.3	---	---	---	---
	29-35	---	---	---	---	---	---	---
	35-39	---	---	---	---	---	---	---
310:								
Agort	0-5	6-15	8.0-25.0	6.6-7.3	---	---	---	---
	5-9	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
310 (con.):								
Xica	0-3	5-12	7.0-15.0	6.6-7.8	---	---	---	---
	3-17	10-24	8.0-21.0	6.6-7.8	---	---	---	---
	17-21	---	---	---	---	---	---	---
Xica	0-3	2-10	5.0-14.0	6.6-7.8	---	---	---	---
	3-17	10-24	8.0-21.0	6.6-7.8	---	---	---	---
	17-21	---	---	---	---	---	---	---
320:								
Hussell	0-4	5-10	3.0-8.0	6.6-7.8	---	---	0-2	---
	4-16	8-15	5.0-11.0	7.4-8.4	---	---	0-2	---
	16-56	0-10	0.0-6.0	7.9-8.4	1-5	---	0-2	1-5
	56-65	0-10	0.0-6.0	7.9-9.0	1-5	---	0-2	1-12
Nevador	0-6	0-10	5.0-10.0	6.6-7.8	---	---	---	---
	6-24	25-35	20.0-25.0	6.6-8.4	1-5	---	2-4	1-5
	24-61	5-15	5.0-10.0	7.4-9.0	1-5	---	2-8	5-12
340:								
Xipe	0-3	18-27	17.0-26.0	6.6-7.8	---	---	---	---
	3-26	18-35	11.0-29.0	6.6-7.8	---	---	---	---
	26-60	0-5	0.0-7.0	7.4-7.8	---	---	---	---
Valmy	0-6	5-15	5.0-15.0	7.9-9.6	---	---	4-8	1-12
	6-60	5-15	5.0-25.0	8.5-9.6	1-4	---	0-8	13-30
Ocala	0-8	15-27	10.0-15.0	8.5-9.6	10-20	---	8-16	46-60
	8-46	18-35	10.0-20.0	8.5-9.6	10-20	---	4-16	31-60
	46-60	18-35	10.0-20.0	8.5-9.0	15-25	1-5	8-16	31-60
341:								
Xipe	0-3	18-27	17.0-26.0	7.4-8.4	---	---	2-4	---
	3-26	18-35	11.0-29.0	7.4-8.4	---	---	2-4	---
	26-60	0-5	0.0-7.0	7.4-8.4	---	---	2-4	---
Batan	0-4	10-15	6.0-9.0	8.5-9.0	1-5	---	4-8	13-30
	4-60	20-30	12.0-18.0	8.5-9.0	1-5	0-1	0-4	13-45
Devilsgait	0-9	15-25	15.0-25.0	7.9-9.0	1-5	---	0-4	---
	9-61	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
380:								
Elhina	0-2	18-25	15.0-20.0	6.6-7.3	---	---	---	---
	2-5	20-30	15.0-25.0	6.6-7.3	---	---	---	---
	5-13	36-50	30.0-40.0	6.6-7.3	---	---	---	---
	13-22	20-30	15.0-25.0	7.9-8.4	5-10	---	0-4	0-2
	22-27	---	---	---	---	---	---	---
	27-60	3-8	2.0-5.0	7.9-8.4	5-10	---	0-4	0-2
400:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
400 (con.):								
Chuska	0-3	22-27	15.0-20.0	7.9-8.4	---	---	---	---
	3-12	26-35	15.0-25.0	7.9-9.0	0-25	---	2-4	2-12
	12-22	---	---	---	---	---	---	---
	22-53	0-5	1.0-4.0	7.9-9.0	20-30	---	4-8	2-12
	53-57	---	---	---	---	---	---	---
401:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Shalper	0-9	12-18	9.0-20.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
403:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
Shalper	0-9	12-18	9.0-20.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
404:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Oupico	0-4	10-15	8.0-16.0	7.9-8.4	1-5	---	0-2	1-5
	4-25	8-18	5.0-15.0	7.9-8.4	5-20	---	0-4	5-12
	25-49	---	---	---	---	---	---	---
	49-62	5-10	3.0-10.0	8.5-9.0	1-10	---	0-4	13-30
405:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
405 (con.):								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
406:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Pibler	0-3	10-20	10.0-20.0	7.9-9.0	10-20	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	10-20	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	10-20	---	0-4	0-2
407:								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Enko	0-3	10-18	10.0-30.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
410:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
McIvey	0-13	20-27	15.0-25.0	6.6-7.3	---	---	---	---
	13-18	20-27	15.0-20.0	6.6-7.3	---	---	---	---
	18-23	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	23-62	40-50	25.0-35.0	6.1-7.3	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
411:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Coser	0-13	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	13-18	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	18-23	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	23-62	---	---	---	---	---	---	---
McIvey	0-13	20-27	15.0-25.0	6.6-7.3	---	---	---	---
	13-18	20-27	15.0-20.0	6.6-7.3	---	---	---	---
	18-23	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	23-62	40-50	25.0-35.0	6.1-7.3	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
412:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Lerrow	0-10	20-25	15.0-20.0	6.6-7.3	---	---	---	---
	10-16	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	16-24	40-55	25.0-30.0	6.6-7.8	---	---	---	---
	24-28	---	---	---	---	---	---	---
414:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Forvic	0-13	30-40	15.0-30.0	6.6-7.3	---	---	---	---
	13-20	50-59	30.0-50.0	6.6-7.3	---	---	---	---
	20-22	50-59	30.0-50.0	6.6-7.3	---	---	---	---
	22-30	---	---	---	---	---	---	---
	30-34	---	---	---	---	---	---	---
Scalfar	0-3	15-25	13.0-23.0	7.4-8.4	---	---	---	---
	3-10	27-35	18.0-25.0	7.4-8.4	---	---	---	---
	10-63	10-18	6.0-13.0	7.9-9.0	5-10	---	0-2	1-5
415:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Pequop	0-10	12-23	11.0-24.0	6.6-7.3	---	---	---	---
	10-60	20-35	14.0-27.0	6.6-7.8	---	---	---	---
417:								
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Fez	0-14	1-10	5.0-15.0	6.6-7.8	---	---	---	---
	14-23	1-10	1.0-9.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
Quopant	0-5	10-15	10.0-17.0	6.6-7.3	---	---	---	---
	5-14	18-30	13.0-24.0	7.4-7.8	---	---	---	---
	14-18	10-20	6.0-14.0	7.4-7.8	---	---	---	---
	18-28	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
418:								
Rodie	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
Rubble Land	0-60	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
419:								
Rodie	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Pequop	0-10	12-23	11.0-24.0	6.6-7.3	---	---	---	---
	10-60	20-35	14.0-27.0	6.6-7.8	---	---	---	---
420:								
Rodie	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Agassiz	0-2	20-27	18.0-27.0	6.6-7.8	---	---	---	---
	2-11	20-27	17.0-25.0	6.6-7.8	---	---	---	---
	11-21	---	---	---	---	---	---	---
421:								
Rodie	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Keman	0-38	14-18	8.0-20.0	5.1-6.5	---	---	---	---
	38-60	24-34	14.0-25.0	5.1-6.5	---	---	---	---
422:								
Rodie	0-14	18-25	15.0-23.0	6.6-7.8	---	---	---	---
	14-30	15-25	9.0-17.0	7.4-8.4	0-1	---	0-2	---
	30-39	15-25	9.0-15.0	7.9-9.0	1-3	---	0-2	1-5
	39-60	5-15	3.0-9.0	7.9-9.0	1-3	---	0-2	1-5

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
422 (con.):								
Quarz	0-3	20-27	15.0-25.0	6.6-7.8	---	---	---	---
	3-23	35-55	30.0-55.0	6.6-7.8	---	---	---	---
	23-27	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
423:								
Quopant	0-5	10-15	10.0-17.0	6.6-7.3	---	---	---	---
	5-14	18-30	13.0-24.0	7.4-7.8	---	---	---	---
	14-18	10-20	6.0-14.0	7.4-7.8	---	---	---	---
	18-28	---	---	---	---	---	---	---
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
Lerrow	0-10	20-25	15.0-20.0	6.6-7.3	---	---	---	---
	10-16	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	16-24	40-55	25.0-30.0	6.6-7.8	---	---	---	---
	24-28	---	---	---	---	---	---	---
430:								
Ocala	0-8	15-27	10.0-15.0	8.5-9.6	10-20	---	4-8	46-60
	8-46	18-35	10.0-20.0	8.5-9.0	15-25	1-5	4-16	31-60
	46-60	5-10	1.0-5.0	8.5-9.0	15-25	1-5	4-8	31-60
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
431:								
Ocala	0-8	15-27	10.0-15.0	8.5-9.6	10-20	---	16-32	46-90
	8-46	18-35	10.0-20.0	8.5-9.0	15-25	1-5	4-16	31-60
	46-60	5-10	1.0-5.0	8.5-9.0	15-25	1-5	4-8	31-60
Batan	0-9	10-15	6.0-9.0	8.5-9.0	1-5	---	4-8	13-30
	9-61	20-30	12.0-18.0	8.5-9.0	1-5	0-1	0-4	13-45
Devilsgait	0-14	12-20	15.0-20.0	7.9-9.0	1-5	---	0-4	---
	14-62	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
432:								
Ocala	0-8	27-35	15.0-20.0	8.5-9.6	10-20	---	16-32	46-90
	8-46	18-35	10.0-20.0	8.5-9.6	10-20	---	4-16	31-60
	46-60	18-35	10.0-20.0	8.5-9.0	15-25	1-5	4-8	31-60
Ixian	0-12	30-40	18.0-24.0	8.5-9.0	10-30	---	16-32	13-45
	12-42	25-35	15.0-21.0	8.5-9.0	10-30	0-3	8-16	13-45
	42-63	30-45	18.0-27.0	8.5-9.0	10-30	2-5	8-32	13-45
462:								
Graley	0-9	18-27	15.0-25.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
462 (con.):								
Chen	0-6	20-27	15.0-25.0	6.1-7.8	---	---	---	---
	6-12	40-55	25.0-40.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Arcia	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
470:								
Rock Outcrop.								
Chen	0-6	20-27	15.0-25.0	6.1-7.8	---	---	---	---
	6-12	40-55	25.0-40.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Graley	0-9	18-27	15.0-25.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
472:								
Chen	0-6	20-27	15.0-25.0	6.1-7.8	---	---	---	---
	6-12	40-55	25.0-40.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
473:								
Chen	0-6	15-25	13.0-21.0	6.1-7.8	---	---	---	---
	6-12	40-55	33.0-52.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
474:								
Chen	0-6	20-27	15.0-25.0	6.1-7.8	---	---	---	---
	6-12	40-55	25.0-40.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Vitale	0-5	12-25	8.0-20.0	6.1-7.3	---	---	---	---
	5-21	26-35	10.0-25.0	6.6-7.8	---	---	---	---
	21-25	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
480:								
Devilsgait	0-9	15-25	15.0-25.0	7.9-9.0	1-5	---	0-4	---
	9-61	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
481:								
Devilsgait	0-9	15-25	15.0-30.0	7.9-8.4	1-5	---	0-2	1-5
	9-61	20-35	15.0-35.0	7.9-8.4	0-5	---	0-2	1-5
Batan	0-4	10-15	6.0-9.0	8.5-9.0	1-5	---	4-8	13-30
	4-60	20-30	12.0-18.0	8.5-9.0	1-5	0-1	0-4	13-45
Devilsgait	0-9	15-25	15.0-25.0	7.9-9.0	1-5	---	0-4	---
	9-61	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
482:								
Devilsgait	0-9	15-25	15.0-30.0	7.9-8.4	1-5	---	0-2	1-5
	9-61	20-35	15.0-35.0	7.9-8.4	0-5	---	0-2	1-5
483:								
Devilsgait	0-9	15-25	15.0-30.0	7.9-8.4	1-5	---	0-2	1-5
	9-61	20-35	15.0-35.0	7.9-8.4	0-5	---	0-2	1-5
Valmy	0-6	5-15	5.0-15.0	7.9-9.6	---	---	4-8	1-12
	6-60	5-15	5.0-25.0	8.5-9.6	1-4	---	0-8	13-30
490:								
Loncan	0-16	18-27	15.0-20.0	6.6-7.3	---	---	---	---
	16-37	18-27	10.0-15.0	6.6-7.3	---	---	---	---
	37-41	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
520:								
Halleck	0-9	18-25	15.0-25.0	7.4-8.4	1-10	---	0-2	---
	9-36	20-35	15.0-25.0	7.4-8.4	1-10	---	0-2	---
	36-61	20-35	10.0-25.0	7.4-8.4	1-10	---	0-2	---
521:								
Halleck	0-12	18-25	15.0-23.0	7.4-8.4	1-10	---	0-2	---
	12-52	20-35	13.0-27.0	7.4-8.4	1-10	---	0-2	---
	52-61	20-35	13.0-23.0	7.4-8.4	1-10	---	0-2	---
Halleck	0-9	18-25	15.0-23.0	7.4-8.4	1-10	---	0-2	---
	9-36	20-35	13.0-27.0	7.4-8.4	1-10	---	0-2	---
	36-61	20-35	13.0-25.0	7.4-8.4	1-10	---	0-2	---
530:								
Ekim	0-9	20-27	20.0-24.0	7.9-8.4	1-5	---	0-2	---
	9-25	20-30	13.0-20.0	7.9-9.0	20-30	---	0-2	---
	25-33	---	---	---	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
530 (con.):								
Loncan	0-16	18-27	15.0-20.0	6.6-7.3	---	---	---	---
	16-37	18-27	10.0-15.0	6.6-7.3	---	---	---	---
	37-41	---	---	---	---	---	---	---
540:								
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
541:								
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Bullump	0-20	15-25	15.0-30.0	6.1-7.8	---	---	---	---
	20-47	25-35	10.0-25.0	6.1-7.8	---	---	---	---
	47-51	---	---	---	---	---	---	---
542:								
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Hackwood	0-8	17-27	17.0-35.0	6.1-7.3	---	---	---	---
	8-30	15-27	12.0-30.0	6.1-7.3	---	---	---	---
	30-61	25-35	20.0-35.0	6.1-7.3	---	---	---	---
543:								
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Pernty	0-3	20-25	16.0-21.0	6.6-7.3	---	---	---	---
	3-16	25-35	17.0-25.0	6.6-7.3	---	---	---	---
	16-20	---	---	---	---	---	---	---
Tusel	0-20	10-20	---	6.1-7.3	---	---	---	---
	20-42	25-35	---	6.1-7.3	---	---	---	---
	42-52	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
550:								
Bullump	0-7	15-25	15.0-30.0	6.1-7.8	---	---	---	---
	7-23	15-25	10.0-20.0	6.1-7.8	---	---	---	---
	23-54	25-35	15.0-30.0	6.1-7.8	---	---	---	---
	54-64	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
560:								
Amene	0-8	20-27	10.0-25.0	7.4-9.0	10-20	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-9.0	35-45	---	0-2	---
	16-20	---	---	---	---	---	---	---
Belsac	0-20	18-25	15.0-25.0	6.6-7.8	---	---	---	---
	20-37	18-25	15.0-20.0	7.4-8.4	0-10	---	---	---
	37-41	---	---	---	---	---	---	---
Onkeyo	0-8	27-35	15.0-30.0	7.4-8.4	1-10	---	---	---
	8-15	25-35	10.0-20.0	7.4-8.4	15-25	---	0-2	---
	15-19	---	---	---	---	---	---	---
561:								
Amene	0-8	20-27	10.0-25.0	7.4-9.0	10-20	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-9.0	35-45	---	0-2	---
	16-20	---	---	---	---	---	---	---
Ekim	0-9	20-27	20.0-24.0	7.9-8.4	1-5	---	0-2	---
	9-25	20-30	13.0-20.0	7.9-9.0	20-30	---	0-2	---
	25-33	---	---	---	---	---	---	---
Agassiz	0-2	20-27	18.0-27.0	6.6-7.8	---	---	---	---
	2-11	20-27	17.0-25.0	6.6-7.8	---	---	---	---
	11-21	---	---	---	---	---	---	---
570:								
Tusel	0-11	10-20	10.0-25.0	6.1-7.3	---	---	---	---
	11-45	25-35	15.0-35.0	6.1-7.3	---	---	---	---
	45-49	---	---	---	---	---	---	---
Belsac Variant	0-9	12-20	11.0-21.0	6.1-7.3	---	---	---	---
	9-41	12-20	6.0-15.0	5.6-6.5	---	---	---	---
	41-61	12-20	6.0-13.0	5.6-6.5	---	---	---	---
580:								
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
Sonoma	0-8	20-27	15.0-20.0	7.9-9.0	3-15	---	0-4	1-5
	8-60	25-35	20.0-25.0	7.9-9.0	3-15	0-1	0-4	5-12

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
582:								
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
Devilsgait	0-9	15-25	15.0-25.0	7.9-9.0	1-5	---	0-4	---
	9-61	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
Welch	0-14	30-35	45.0-55.0	6.1-7.3	---	---	---	---
	14-62	27-35	20.0-40.0	6.1-7.8	---	---	---	---
585:								
Valmy	0-3	5-15	5.0-15.0	8.5-9.0	1-5	---	0-2	13-45
	3-43	5-15	19.0-29.0	8.5-9.0	1-5	---	0-8	13-45
	43-66	1-5	1.0-5.0	8.5-9.0	1-5	---	0-8	13-45
Luap	0-10	8-18	5.0-12.0	7.9-9.0	5-10	---	0-2	1-5
	10-26	8-18	5.0-11.0	7.9-9.0	10-15	---	2-8	5-30
	26-31	---	---	---	---	---	---	---
	31-60	2-8	1.0-5.0	7.9-9.0	15-25	---	8-16	13-30
590:								
Valmy	0-6	5-15	5.0-15.0	7.9-9.6	---	---	4-8	1-12
	6-60	5-15	5.0-25.0	8.5-9.6	1-4	---	0-8	13-30
Enko	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
610:								
Grina	0-4	27-35	20.0-25.0	7.9-8.4	20-30	---	---	---
	4-14	20-35	15.0-20.0	7.9-8.4	20-40	---	---	---
	14-18	---	---	---	---	---	---	---
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
620:								
Vadano	0-6	20-27	16.0-22.0	7.4-7.8	---	---	---	---
	6-18	20-27	13.0-20.0	7.4-8.4	0-5	---	---	---
	18-38	---	---	---	---	---	---	---
	38-60	8-15	5.0-9.0	7.9-8.4	5-10	---	0-2	---
Vadaho	0-6	20-27	16.0-22.0	7.4-7.8	---	---	---	---
	6-18	20-27	13.0-20.0	7.4-8.4	0-5	---	---	---
	18-38	---	---	---	---	---	---	---
	38-60	8-15	5.0-9.0	7.9-8.4	5-10	---	0-2	---
621:								
Vadaho	0-6	20-27	16.0-22.0	7.4-7.8	---	---	---	---
	6-18	20-27	13.0-20.0	7.4-8.4	0-5	---	---	---
	18-38	---	---	---	---	---	---	---
	38-60	8-15	5.0-9.0	7.9-8.4	5-10	---	0-2	---
Vadaho	0-6	20-27	16.0-22.0	7.4-7.8	---	---	---	---
	6-18	20-27	13.0-20.0	7.4-8.4	0-5	---	---	---
	18-38	---	---	---	---	---	---	---
	38-60	8-15	5.0-9.0	7.9-8.4	5-10	---	0-2	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
621 (con.):								
Stampede	0-5	20-25	15.0-25.0	6.1-7.3	---	---	---	---
	5-27	40-55	25.0-35.0	6.6-7.8	---	---	---	---
	27-60	---	---	---	---	---	---	---
631:								
Pernty	0-3	18-25	15.0-20.0	6.6-7.3	---	---	---	---
	3-16	25-35	15.0-20.0	6.6-7.3	---	---	---	---
	16-20	---	---	---	---	---	---	---
McIvey	0-13	20-27	15.0-25.0	6.6-7.3	---	---	---	---
	13-18	20-27	15.0-20.0	6.6-7.3	---	---	---	---
	18-23	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	23-62	40-50	25.0-35.0	6.1-7.3	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
632:								
Pernty	0-3	18-25	15.0-20.0	6.6-7.3	---	---	---	---
	3-16	25-35	15.0-20.0	6.6-7.3	---	---	---	---
	16-20	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
633:								
Rock Outcrop.								
Pernty	0-3	18-25	15.0-20.0	6.6-7.3	---	---	---	---
	3-16	25-35	15.0-20.0	6.6-7.3	---	---	---	---
	16-20	---	---	---	---	---	---	---
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
651:								
Scalfar	0-2	15-25	13.0-23.0	7.4-8.4	---	---	---	---
	2-11	27-35	18.0-25.0	7.4-8.4	---	---	---	---
	11-25	10-20	6.0-14.0	7.4-8.4	1-2	---	0-2	---
	25-60	8-18	5.0-11.0	7.9-9.0	5-10	---	0-2	1-5
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Hackwood	0-8	17-27	17.0-35.0	6.1-7.3	---	---	---	---
	8-30	15-27	12.0-30.0	6.1-7.3	---	---	---	---
	30-61	25-35	20.0-35.0	6.1-7.3	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
652:								
Scalfar---------	0-2	15-25	13.0-23.0	7.4-8.4	---	---	---	---
	2-11	27-35	18.0-25.0	7.4-8.4	---	---	---	---
	11-25	10-20	6.0-14.0	7.4-8.4	1-2	---	0-2	---
	25-60	8-18	5.0-11.0	7.9-9.0	5-10	---	0-2	1-5
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Quopant---------	0-5	10-15	10.0-17.0	6.6-7.3	---	---	---	---
	5-14	18-30	13.0-24.0	7.4-7.8	---	---	---	---
	14-18	10-20	6.0-14.0	7.4-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
655:								
Scalfar---------	0-2	15-25	13.0-23.0	7.4-8.4	---	---	---	---
	2-11	27-35	18.0-25.0	7.4-8.4	---	---	---	---
	11-25	10-20	6.0-14.0	7.4-8.4	1-2	---	0-2	---
	25-60	8-18	5.0-11.0	7.9-9.0	5-10	---	0-2	1-5
Hapgood---------	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
656:								
Scalfar---------	0-3	15-25	13.0-23.0	7.4-8.4	---	---	---	---
	3-10	27-35	18.0-25.0	7.4-8.4	---	---	---	---
	10-63	10-18	6.0-13.0	7.9-9.0	5-10	---	0-2	1-5
Fenelon---------	0-6	18-25	15.0-23.0	7.4-7.8	---	---	---	---
	6-37	27-35	17.0-25.0	7.9-8.4	1-5	---	0-2	---
	37-47	---	---	---	---	---	---	---
Booford---------	0-9	27-35	20.0-29.0	6.1-7.3	---	---	---	---
	9-24	40-60	34.0-52.0	6.1-7.3	---	---	---	---
	24-34	---	---	---	---	---	---	---
660:								
Hooplite--------	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Hooplite--------	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
661:								
Hooplite--------	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Hooplite--------	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
661 (con.):								
Ackett	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
662:								
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
664:								
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Kram	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
665:								
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
666:								
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Hooplite	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---
Kleckner	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-11	35-50	20.0-35.0	7.4-7.8	---	---	---	---
	11-42	35-50	20.0-30.0	7.4-7.8	---	---	---	---
	42-60	10-20	5.0-10.0	7.4-7.8	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
670:								
Ackett----------	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
Kleckner--------	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-11	35-50	20.0-35.0	7.4-7.8	---	---	---	---
	11-42	35-50	20.0-30.0	7.4-7.8	---	---	---	---
	42-60	10-20	5.0-10.0	7.4-7.8	---	---	---	---
Anowell---------	0-2	18-25	13.0-22.0	7.9-9.0	1-5	---	0-4	1-5
	2-6	25-35	16.0-25.0	7.9-9.0	1-5	---	0-4	1-5
	6-10	---	---	---	---	---	---	---
672:								
Ackett----------	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
Ackett----------	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
Cameek----------	0-2	20-25	15.0-25.0	7.4-7.8	---	---	0-2	---
	2-8	30-40	20.0-30.0	7.4-7.8	---	1-5	0-2	---
	8-19	40-60	25.0-35.0	7.4-7.8	---	1-5	0-2	---
	19-42	---	---	---	---	---	---	---
	42-60	10-15	5.0-10.0	7.4-7.8	---	1-10	0-2	---
673:								
Ackett----------	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
Ackett----------	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
Gance-----------	0-5	20-25	15.0-25.0	6.6-8.4	---	---	---	---
	5-20	35-55	20.0-45.0	7.4-8.4	0-10	---	0-4	---
	20-60	10-20	5.0-15.0	7.9-9.0	10-25	---	0-8	---
674:								
Ackett----------	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
674 (con.):								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
678:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
679:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-30	---	---	---	---	---	---	---
	30-60	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
680:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Holborn	0-3	18-27	10.0-25.0	7.9-9.0	1-10	---	0-2	---
	3-7	18-30	10.0-25.0	7.9-9.0	15-30	---	0-2	---
	7-17	---	---	---	---	---	---	---
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
681:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Loomis	0-1	15-27	11.0-20.0	6.6-7.8	---	---	---	---
	1-9	35-55	28.0-46.0	6.6-7.8	---	---	---	---
	9-13	---	---	---	---	---	---	---
Vanwyper	0-10	18-25	25.0-35.0	6.6-7.3	---	---	---	---
	10-25	35-55	20.0-30.0	6.6-7.8	---	---	---	0-5
	25-29	---	---	---	---	---	---	---
682:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
682 (con.):								
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
683:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Holborn	0-3	18-27	10.0-25.0	7.9-9.0	1-10	---	0-2	---
	3-7	18-30	10.0-25.0	7.9-9.0	15-30	---	0-2	---
	7-17	---	---	---	---	---	---	---
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
684:								
Rock Outcrop.								
Izar	0-3	18-25	13.0-19.0	7.4-8.4	1-10	---	---	---
	3-13	18-25	11.0-17.0	7.4-8.4	5-30	---	---	---
	13-17	---	---	---	---	---	---	---
685:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
Yuko	0-4	10-20	5.0-15.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---
686:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Vanwyper	0-10	18-25	25.0-35.0	6.6-7.3	---	---	---	---
	10-25	35-55	20.0-30.0	6.6-7.8	---	---	---	0-5
	25-29	---	---	---	---	---	---	---
687:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
687 (con.):								
Wiffo	0-8	10-18	8.0-15.0	7.9-9.0	15-25	---	0-2	1-5
	8-27	8-15	5.0-11.0	7.9-9.0	15-25	---	0-2	1-5
	27-60	5-15	3.0-9.0	7.9-9.0	15-25	---	0-4	1-5
688:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Yuko	0-4	10-20	5.0-15.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---
689:								
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
690:								
Oupico	0-4	6-15	5.0-16.0	7.4-8.4	1-5	---	0-2	1-5
	4-25	8-18	5.0-15.0	7.9-8.4	5-20	---	0-4	5-12
	25-49	---	---	---	---	---	---	---
	49-62	5-10	3.0-10.0	8.5-9.0	1-10	---	0-4	13-30
Oupico	0-4	6-15	5.0-16.0	7.4-8.4	1-5	---	0-2	1-5
	4-25	8-18	5.0-15.0	7.9-8.4	5-20	---	0-4	5-12
	25-49	---	---	---	---	---	---	---
	49-62	5-10	3.0-10.0	8.5-9.0	1-10	---	0-4	13-30
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-25	---	---	---	---	---	---	---
691:								
Oupico	0-4	10-15	8.0-16.0	7.9-8.4	1-5	---	0-2	1-5
	4-25	8-18	5.0-15.0	7.9-8.4	5-20	---	0-4	5-12
	25-49	---	---	---	---	---	---	---
	49-62	5-10	3.0-10.0	8.5-9.0	1-10	---	0-4	13-30
Enko	0-14	10-18	10.0-20.0	7.4-8.4	---	---	0-2	0-5
	14-53	10-18	10.0-20.0	7.9-9.0	0-10	---	0-4	5-12
	53-63	2-10	1.0-10.0	8.5-9.0	1-10	---	2-8	13-45
700:								
Xica	0-3	5-12	7.0-15.0	6.6-7.8	---	---	---	---
	3-17	10-24	8.0-21.0	6.6-7.8	---	---	---	---
	17-21	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
700 (con.):								
Shalcleav-------	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Hapgood---------	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
701:								
Xica------------	0-3	5-12	7.0-15.0	6.6-7.8	---	---	---	---
	3-17	10-24	8.0-21.0	6.6-7.8	---	---	---	---
	17-21	---	---	---	---	---	---	---
Xica------------	0-3	5-12	7.0-15.0	6.6-7.8	---	---	---	---
	3-17	10-24	8.0-21.0	6.6-7.8	---	---	---	---
	17-21	---	---	---	---	---	---	---
Agort-----------	0-5	6-15	8.0-25.0	6.6-7.3	---	---	---	---
	5-9	---	---	---	---	---	---	---
730:								
Geysen----------	0-4	10-15	8.0-13.0	7.9-9.0	1-3	---	4-8	5-12
	4-12	25-35	16.0-23.0	8.5-9.0	1-5	---	4-32	13-45
	12-60	15-20	9.0-14.0	8.5-9.0	1-5	---	4-32	13-30
Welch-----------	0-14	27-40	25.0-35.0	6.1-7.3	---	---	---	---
	14-62	27-35	25.0-35.0	6.1-7.8	---	---	---	---
Batan-----------	0-4	10-15	6.0-9.0	8.5-9.0	1-5	---	4-8	13-30
	4-60	20-30	12.0-18.0	8.5-9.0	1-5	0-1	0-4	13-45
731:								
Geysen----------	0-4	10-15	8.0-13.0	7.9-9.0	1-3	---	4-8	5-12
	4-12	25-35	16.0-23.0	8.5-9.0	1-5	---	4-32	13-45
	12-60	15-20	9.0-14.0	8.5-9.0	1-5	---	4-32	13-30
Crooked Creek---	0-18	30-40	25.0-35.0	6.6-8.4	---	---	0-2	---
	18-61	35-50	25.0-40.0	6.6-8.4	---	---	0-2	---
Batan-----------	0-4	10-15	6.0-9.0	8.5-9.0	1-5	---	4-8	13-30
	4-60	20-30	12.0-18.0	8.5-9.0	1-5	0-1	0-4	13-45
742:								
Cleavage--------	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Cleavage--------	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Vitale----------	0-5	12-25	8.0-20.0	6.1-7.3	---	---	---	---
	5-21	26-35	10.0-25.0	6.6-7.8	---	---	---	---
	21-25	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
743:								
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
744:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Graley	0-9	18-27	15.0-25.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
745:								
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Graley	0-9	10-18	10.0-20.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
746:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Hackwood	0-8	17-27	17.0-35.0	6.1-7.3	---	---	---	---
	8-30	15-27	12.0-30.0	6.1-7.3	---	---	---	---
	30-61	25-35	20.0-35.0	6.1-7.3	---	---	---	---
Graley	0-9	18-27	15.0-25.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
747:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Keman	0-38	14-18	8.0-20.0	5.1-6.5	---	---	---	---
	38-60	24-34	14.0-25.0	5.1-6.5	---	---	---	---
Hogmalat	0-3	12-20	7.0-15.0	5.6-6.0	---	---	---	---
	3-10	24-34	15.0-30.0	5.1-6.0	---	---	---	---
	10-14	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
748:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Quopant	0-5	10-15	10.0-17.0	6.6-7.3	---	---	---	---
	5-14	18-30	13.0-24.0	7.4-7.8	---	---	---	---
	14-18	10-20	6.0-14.0	7.4-7.8	---	---	---	---
	18-28	---	---	---	---	---	---	---
749:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Snotown	0-7	12-18	11.0-19.0	4.5-5.0	---	---	---	---
	7-30	12-18	7.0-13.0	2.0-5.0	---	---	---	---
	30-33	---	---	---	---	---	---	---
Chen	0-6	20-27	15.0-25.0	6.1-7.8	---	---	---	---
	6-12	40-55	25.0-40.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
750:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Bullump	0-20	15-25	15.0-30.0	6.1-7.8	---	---	---	---
	20-47	25-35	10.0-25.0	6.1-7.8	---	---	---	---
	47-51	---	---	---	---	---	---	---
Hackwood	0-8	17-27	17.0-35.0	6.1-7.3	---	---	---	---
	8-30	15-27	12.0-30.0	6.1-7.3	---	---	---	---
	30-61	25-35	20.0-35.0	6.1-7.3	---	---	---	---
751:								
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
752:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
752 (con.):								
Arcia	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
Lerrow	0-10	20-25	15.0-20.0	6.6-7.3	---	---	---	---
	10-16	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	16-24	40-55	25.0-30.0	6.6-7.8	---	---	---	---
	24-28	---	---	---	---	---	---	---
753:								
Rock Outcrop.								
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
754:								
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
755:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
756:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Pernty	0-3	18-25	15.0-20.0	6.6-7.3	---	---	---	---
	3-16	25-35	15.0-20.0	6.6-7.3	---	---	---	---
	16-20	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
757:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Snotown	0-7	12-18	11.0-19.0	4.5-5.0	---	---	---	---
	7-30	12-18	7.0-13.0	2.0-5.0	---	---	---	---
	30-33	---	---	---	---	---	---	---
758:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
Graley	0-9	10-18	10.0-20.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
759:								
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
Scalfar	0-2	15-25	13.0-23.0	7.4-8.4	---	---	---	---
	2-11	27-35	18.0-25.0	7.4-8.4	---	---	---	---
	11-25	10-20	6.0-14.0	7.4-8.4	1-2	---	0-2	---
	25-60	8-18	5.0-11.0	7.9-9.0	5-10	---	0-2	1-5
760:								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
761:								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
761 (con.):								
Gance	0-5	20-25	15.0-25.0	6.6-8.4	---	---	---	---
	5-20	35-55	20.0-45.0	7.4-8.4	0-10	---	0-4	---
	20-60	10-20	5.0-15.0	7.9-9.0	10-25	---	0-8	---
762:								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Gance	0-5	20-25	15.0-25.0	6.6-8.4	---	---	---	---
	5-20	35-55	20.0-45.0	7.4-8.4	0-10	---	0-4	---
	20-60	10-20	5.0-15.0	7.9-9.0	10-25	---	0-8	---
763:								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
Pamison	0-13	18-25	15.0-23.0	7.9-8.4	0-15	---	0-2	---
	13-24	10-20	7.0-14.0	7.9-9.0	15-30	---	0-2	---
	24-60	5-10	3.0-6.0	7.9-9.0	5-15	---	0-2	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
764:								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
765:								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
Pequop	0-10	12-23	11.0-24.0	6.6-7.3	---	---	---	---
	10-60	20-35	14.0-27.0	6.6-7.8	---	---	---	---
Yuko	0-4	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
780:								
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Yuko	0-4	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---
781:								
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Shalper	0-9	12-18	9.0-20.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
790:								
Loomis	0-1	18-25	15.0-20.0	6.6-7.8	---	---	---	---
	1-5	35-40	20.0-25.0	6.6-7.8	---	---	---	---
	5-9	40-60	25.0-35.0	6.6-7.8	---	---	---	---
	9-13	---	---	---	---	---	---	---
Ackett	0-2	18-27	10.0-20.0	7.4-7.8	0-3	---	0-2	0-2
	2-5	35-50	20.0-40.0	7.4-7.8	0-15	---	0-2	0-2
	5-13	35-55	20.0-40.0	7.9-8.4	20-30	---	0-2	0-2
	13-51	---	---	---	---	---	---	---
	51-61	5-15	1.0-3.0	8.5-9.0	20-30	---	0-2	0-2
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
796:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
797:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Amene	0-8	20-27	10.0-25.0	7.4-9.0	10-20	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-9.0	35-45	---	0-2	---
	16-20	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
798:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Amene	0-8	20-27	10.0-25.0	7.4-9.0	10-20	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-9.0	35-45	---	0-2	---
	16-20	---	---	---	---	---	---	---
Hackwood	0-8	17-27	17.0-35.0	6.1-7.3	---	---	---	---
	8-30	15-27	12.0-30.0	6.1-7.3	---	---	---	---
	30-61	25-35	20.0-35.0	6.1-7.3	---	---	---	---
799:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Arcia	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
Vitale	0-5	12-25	8.0-20.0	6.1-7.3	---	---	---	---
	5-21	26-35	10.0-25.0	6.6-7.8	---	---	---	---
	21-25	---	---	---	---	---	---	---
801:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Amene	0-8	20-27	10.0-25.0	7.4-9.0	10-20	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-9.0	35-45	---	0-2	---
	16-20	---	---	---	---	---	---	---
Onkeyo	0-8	27-35	15.0-30.0	7.4-8.4	1-10	---	---	---
	8-15	25-35	10.0-20.0	7.4-8.4	15-25	---	0-2	---
	15-19	---	---	---	---	---	---	---
802:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Hackwood	0-8	17-27	17.0-35.0	6.1-7.3	---	---	---	---
	8-30	15-27	12.0-30.0	6.1-7.3	---	---	---	---
	30-61	25-35	20.0-35.0	6.1-7.3	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
804:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Onkeyo	0-10	27-35	15.0-30.0	7.4-8.4	1-10	---	---	---
	10-36	25-35	10.0-20.0	7.4-8.4	15-25	---	0-2	---
	36-40	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
804 (con.):								
Nirac	0-14	10-18	10.0-15.0	7.4-8.4	5-10	---	---	---
	14-25	15-25	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	25-29	---	---	---	---	---	---	---
805:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Ekim	0-9	20-27	20.0-24.0	7.9-8.4	1-5	---	0-2	---
	9-25	20-30	13.0-20.0	7.9-9.0	20-30	---	0-2	---
	25-33	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
806:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Vitale	0-5	12-25	8.0-20.0	6.1-7.3	---	---	---	---
	5-21	26-35	10.0-25.0	6.6-7.8	---	---	---	---
	21-25	---	---	---	---	---	---	---
807:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Belsac	0-20	18-25	15.0-25.0	6.6-7.8	---	---	---	---
	20-37	18-25	15.0-20.0	7.4-8.4	0-10	---	---	---
	37-41	---	---	---	---	---	---	---
808:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
Cleavage	0-7	15-20	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Hapgood	0-4	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	4-31	18-27	15.0-20.0	6.1-7.3	---	---	---	---
	31-50	10-15	5.0-10.0	6.1-7.3	---	---	---	---
	50-54	---	---	---	---	---	---	---
809:								
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
809 (con.):								
Xica	0-3	5-12	7.0-15.0	6.6-7.8	---	---	---	---
	3-17	10-24	8.0-21.0	6.6-7.8	---	---	---	---
	17-21	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
810:								
Igdell	0-2	27-35	20.0-25.0	6.6-7.8	---	---	---	---
	2-31	45-60	25.0-35.0	6.6-7.8	---	---	---	---
	31-37	20-35	15.0-20.0	7.4-8.4	0-5	---	0-2	1-5
	37-45	---	---	---	---	---	---	---
Kleckner	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-11	35-50	20.0-35.0	7.4-7.8	---	---	---	---
	11-42	35-50	20.0-30.0	7.4-7.8	---	---	---	---
	42-60	10-20	5.0-10.0	7.4-7.8	---	---	---	---
820:								
Cotant	0-3	20-27	20.0-25.0	6.6-7.8	---	---	---	---
	3-12	40-60	35.0-50.0	6.6-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Eboda	0-9	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	9-30	25-35	15.0-20.0	6.6-7.8	---	---	---	---
	30-37	15-30	5.0-20.0	6.6-7.8	---	---	---	---
	37-41	---	---	---	---	---	---	---
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
822:								
Cotant	0-3	27-40	25.0-35.0	6.6-7.8	---	---	---	---
	3-12	40-60	35.0-50.0	6.6-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Chen	0-6	15-25	13.0-21.0	6.1-7.8	---	---	---	---
	6-12	40-55	33.0-52.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Graley	0-9	18-27	15.0-25.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
830:								
Onkeyo	0-8	27-35	15.0-30.0	7.4-8.4	1-10	---	---	---
	8-15	25-35	10.0-20.0	7.4-8.4	15-25	---	0-2	---
	15-19	---	---	---	---	---	---	---
Pequop	0-10	12-23	11.0-24.0	6.6-7.3	---	---	---	---
	10-60	20-35	14.0-27.0	6.6-7.8	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
850:								
Pamison	0-13	18-25	15.0-23.0	7.9-8.4	0-15	---	0-2	---
	13-24	10-20	7.0-14.0	7.9-9.0	15-30	---	0-2	---
	24-60	5-10	3.0-6.0	7.9-9.0	5-15	---	0-2	---
Affey	0-12	20-27	20.0-30.0	6.6-7.8	---	---	---	---
	12-21	35-40	30.0-40.0	6.6-7.8	---	---	---	---
	21-34	35-50	30.0-45.0	7.4-8.4	---	---	0-2	---
	34-60	27-40	20.0-35.0	7.9-9.0	1-10	---	0-2	---
Pamison	0-13	18-25	15.0-23.0	7.9-8.4	0-15	---	0-2	---
	13-24	10-20	7.0-14.0	7.9-9.0	15-30	---	0-2	---
	24-60	5-10	3.0-6.0	7.9-9.0	5-15	---	0-2	---
851:								
Pamison	0-13	18-25	15.0-23.0	7.9-8.4	0-15	---	0-2	---
	13-24	10-20	7.0-14.0	7.9-9.0	15-30	---	0-2	---
	24-60	5-10	3.0-6.0	7.9-9.0	5-15	---	0-2	---
Amtoft	0-3	15-25	15.0-25.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---
Coser	0-4	28-35	22.0-27.0	6.6-7.3	---	---	---	---
	4-22	50-60	42.0-52.0	6.6-7.3	---	---	---	---
	22-28	45-55	37.0-46.0	6.6-7.8	---	---	---	---
	28-61	---	---	---	---	---	---	---
880:								
Heckison	0-6	17-23	15.0-25.0	6.6-7.8	---	---	---	0-5
	6-28	24-35	20.0-30.0	6.6-8.4	0-10	---	0-2	2-12
	28-33	10-20	10.0-15.0	7.4-9.0	15-25	---	0-2	2-12
	33-39	---	---	---	---	---	---	---
	39-43	---	---	---	---	---	---	---
Xerxes	0-2	3-10	4.0-12.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
881:								
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
Chayson	0-3	15-25	10.0-20.0	7.4-7.8	---	---	---	---
	3-20	24-34	15.0-30.0	7.4-7.8	---	---	---	---
	20-36	24-34	15.0-30.0	7.9-9.0	15-30	---	2-4	2-12
	36-60	---	---	---	---	---	---	---
Pamison	0-13	18-25	15.0-23.0	7.9-8.4	0-15	---	0-2	---
	13-24	10-20	7.0-14.0	7.9-9.0	15-30	---	0-2	---
	24-60	5-10	3.0-6.0	7.9-9.0	5-15	---	0-2	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
930:								
Orovada	0-12	10-15	15.0-20.0	6.6-8.4	---	---	---	0-5
	12-19	5-18	10.0-20.0	7.4-8.4	0-5	---	0-4	0-5
	19-65	5-18	10.0-20.0	7.9-9.6	1-15	---	4-16	1-12
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
Orovada	0-12	10-15	15.0-20.0	6.6-8.4	---	---	---	0-5
	12-19	5-18	10.0-20.0	7.4-8.4	0-5	---	0-4	0-5
	19-65	5-18	10.0-20.0	7.9-9.6	1-15	---	4-16	1-12
931:								
Orovada	0-12	10-15	15.0-20.0	6.6-8.4	---	---	---	0-5
	12-19	5-18	10.0-20.0	7.4-8.4	0-5	---	0-4	0-5
	19-65	5-18	10.0-20.0	7.9-9.6	1-15	---	4-16	1-12
Oupico	0-4	6-15	5.0-16.0	7.4-8.4	1-5	---	0-2	1-5
	4-25	8-18	5.0-15.0	7.9-8.4	5-20	---	0-4	5-12
	25-49	---	---	---	---	---	---	---
	49-62	5-10	3.0-10.0	8.5-9.0	1-10	---	0-4	13-30
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
932:								
Orovada	0-12	10-15	15.0-20.0	6.6-8.4	---	---	---	0-5
	12-19	5-18	10.0-20.0	7.4-8.4	0-5	---	0-4	0-5
	19-65	5-18	10.0-20.0	7.9-9.6	1-15	---	4-16	1-12
Xipe	0-3	18-27	17.0-26.0	6.6-7.8	---	---	---	---
	3-26	18-35	11.0-29.0	6.6-7.8	---	---	---	---
	26-60	0-5	0.0-7.0	7.4-7.8	---	---	---	---
Ocala	0-8	15-27	10.0-15.0	8.5-9.6	10-20	---	8-16	46-90
	8-46	18-35	10.0-20.0	8.5-9.0	15-25	1-5	4-16	31-60
	46-60	5-10	1.0-5.0	8.5-9.0	15-25	1-5	4-8	31-60
940:								
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---
Anowell	0-2	18-25	13.0-22.0	7.9-9.0	1-5	---	0-4	1-5
	2-6	25-35	16.0-25.0	7.9-9.0	1-5	---	0-4	1-5
	6-10	---	---	---	---	---	---	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
941:								
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
941 (con.):								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
942:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
Anowell	0-2	18-25	13.0-22.0	7.9-9.0	1-5	---	0-4	1-5
	2-6	25-35	16.0-25.0	7.9-9.0	1-5	---	0-4	1-5
	6-10	---	---	---	---	---	---	---
943:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
944:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Peeko	0-2	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	2-5	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	---
	5-10	18-27	10.0-20.0	7.9-8.4	1-10	---	0-2	1-5
	10-35	---	---	---	---	---	---	---
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---
945:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
946:								
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
947:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Kelk	0-12	18-27	15.0-25.0	6.6-8.4	0-1	---	0-4	1-5
	12-50	18-27	20.0-30.0	7.4-8.4	1-5	---	0-8	5-12
	50-63	18-27	20.0-30.0	8.5-9.0	1-5	---	4-16	13-30
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---
948:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Puett	0-6	10-20	10.0-20.0	7.9-9.0	1-5	---	0-2	0-5
	6-11	5-10	5.0-10.0	7.9-9.0	1-5	---	0-2	5-12
	11-15	---	---	---	---	---	---	---
Trinidad	0-2	18-27	15.0-24.0	7.9-8.4	40-80	---	---	---
	2-13	18-27	15.0-24.0	7.9-8.4	40-80	---	0-2	---
	13-21	---	---	---	---	---	---	---
	21-31	---	---	---	---	---	---	---
949:								
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Quopant	0-5	10-15	10.0-17.0	6.6-7.3	---	---	---	---
	5-14	18-30	13.0-24.0	7.4-7.8	---	---	---	---
	14-18	10-20	6.0-14.0	7.4-7.8	---	---	---	---
	18-28	---	---	---	---	---	---	---
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
961:								
Trinidad	0-2	18-27	15.0-24.0	7.9-8.4	40-80	---	---	---
	2-13	18-27	15.0-24.0	7.9-8.4	40-80	---	0-2	---
	13-21	---	---	---	---	---	---	---
	21-31	---	---	---	---	---	---	---
Trinidad	0-2	18-27	15.0-24.0	7.9-8.4	40-80	---	---	---
	2-13	18-27	15.0-24.0	7.9-8.4	40-80	---	0-2	---
	13-21	---	---	---	---	---	---	---
	21-31	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
961 (con.):								
Izod	0-2	18-25	10.0-20.0	7.4-8.4	40-50	---	---	---
	2-10	18-25	10.0-15.0	7.4-8.4	40-50	---	0-2	---
	10-14	---	---	---	---	---	---	---
970:								
Hunewill	0-6	12-20	10.0-18.0	6.6-7.3	---	---	---	---
	6-20	25-35	19.0-27.0	6.6-7.8	---	---	---	---
	20-61	0-2	0.0-2.0	6.6-7.8	---	---	---	---
Bilbo	0-2	15-25	10.0-25.0	6.6-7.8	---	---	---	---
	2-32	35-50	20.0-40.0	6.6-7.8	---	---	0-2	0-12
	32-60	5-15	5.0-10.0	7.4-8.4	10-20	---	0-2	1-12
Devilsgait	0-9	15-25	15.0-25.0	7.9-9.0	1-5	---	0-4	---
	9-61	20-35	15.0-25.0	7.9-9.0	1-5	---	0-4	---
980:								
Boso	0-9	18-27	15.0-24.0	7.4-8.4	0-5	---	---	---
	9-19	18-27	12.0-20.0	7.4-9.0	5-15	---	0-2	---
	19-34	---	---	---	---	---	---	---
	34-40	10-18	6.0-11.0	7.9-8.4	20-35	0-2	0-2	0-12
	40-54	10-18	6.0-11.0	7.9-9.0	20-35	0-2	0-2	0-12
Dewar	0-2	18-25	10.0-25.0	6.6-8.4	0-1	---	0-2	0-5
	2-14	27-35	15.0-30.0	6.6-8.4	0-5	---	0-4	1-12
	14-60	---	---	---	---	---	---	---
990:								
Bluehill	0-9	1-10	8.0-14.0	7.4-8.4	---	---	0-2	---
	9-26	1-10	8.0-14.0	7.9-9.0	0-25	---	0-2	---
	26-30	---	---	---	---	---	---	---
Tomsherry	0-10	5-10	3.0-8.0	6.6-7.3	---	---	---	---
	10-20	5-15	3.0-15.0	7.9-8.4	15-25	---	0-2	---
	20-33	---	---	---	---	---	---	---
	33-60	5-10	3.0-8.0	7.9-8.4	0-5	---	0-2	---
Xerxes	0-2	3-10	4.0-12.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---
1010:								
Agassiz	0-2	20-27	18.0-27.0	6.6-7.8	---	---	---	---
	2-11	20-27	17.0-25.0	6.6-7.8	---	---	---	---
	11-21	---	---	---	---	---	---	---
Croesus	0-3	10-18	5.0-20.0	6.1-7.3	---	---	---	---
	3-18	10-18	5.0-20.0	6.1-7.3	---	---	---	---
	18-28	10-18	5.0-20.0	7.4-8.4	---	---	0-2	---
	28-38	---	---	---	---	---	---	---
Rubble Land	0-60	---	---	---	---	---	---	---
1040:								
Gravier	0-4	8-18	10.0-20.0	7.9-9.0	5-10	---	0-4	1-5
	4-50	8-18	5.0-15.0	7.9-9.0	15-30	---	4-8	13-30
	50-60	0-5	5.0-10.0	7.9-9.0	5-25	---	0-4	13-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1040 (con.):								
Shafter	0-3	8-18	5.0-13.0	7.9-9.0	10-20	---	0-4	1-12
	3-14	8-18	5.0-11.0	7.9-9.0	10-20	---	0-4	1-12
	14-30	---	---	---	---	---	---	---
	30-61	0-8	0.0-5.0	7.9-9.0	5-15	---	0-2	5-12
Toano	0-8	10-18	6.0-13.0	7.9-8.4	10-20	---	2-4	1-5
	8-31	8-15	5.0-9.0	7.9-9.0	15-30	---	8-16	1-5
	31-46	8-15	5.0-9.0	7.9-9.0	15-30	0-1	4-8	1-5
	46-61	3-10	1.0-6.0	7.9-9.0	15-30	0-1	4-8	1-12
1041:								
Gravier	0-4	8-18	10.0-20.0	7.9-9.0	5-10	---	0-4	1-5
	4-50	8-18	5.0-15.0	7.9-9.0	15-30	---	4-8	13-30
	50-60	0-5	5.0-10.0	7.9-9.0	5-25	---	0-4	13-30
Wiffo	0-8	10-18	8.0-15.0	7.9-9.0	15-25	---	0-2	1-5
	8-27	8-15	5.0-11.0	7.9-9.0	15-25	---	0-2	1-5
	27-60	5-15	3.0-9.0	7.9-9.0	15-25	---	0-4	1-5
1042:								
Gravier	0-4	8-18	5.0-15.0	7.9-9.0	5-10	---	0-4	1-5
	4-50	8-18	5.0-15.0	7.9-9.0	15-30	---	4-8	13-30
	50-60	0-5	5.0-10.0	7.9-9.0	5-25	---	0-4	13-30
Pibler	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
1043:								
Gravier	0-4	8-18	10.0-20.0	7.9-9.0	5-10	---	0-4	1-5
	4-50	8-18	5.0-15.0	7.9-9.0	15-30	---	4-8	13-30
	50-60	0-5	5.0-10.0	7.9-9.0	5-25	---	0-4	13-30
Luap	0-3	8-18	5.0-12.0	7.9-9.0	5-10	---	0-2	1-5
	3-23	8-18	5.0-11.0	7.9-9.0	5-10	---	2-8	5-30
	23-37	2-8	1.0-5.0	7.9-9.0	10-15	---	2-8	5-30
	37-44	---	---	---	---	---	---	---
	44-61	2-8	1.0-5.0	7.9-9.0	15-25	---	2-8	13-30
1050:								
Pibler	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
Pibler	0-3	10-18	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-14	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	14-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1051:								
Pibler----------	0-5	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	5-11	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	11-22	---	---	---	---	---	---	---
	22-47	5-15	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
	47-57	---	---	---	---	---	---	---
Pibler----------	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
1052:								
Pibler----------	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
Gravier---------	0-4	8-18	10.0-20.0	7.9-9.0	5-10	---	0-4	1-5
	4-50	8-18	5.0-15.0	7.9-9.0	15-30	---	4-8	13-30
	50-60	0-5	5.0-10.0	7.9-9.0	5-25	---	0-4	13-30
1054:								
Pibler----------	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
Wiffo----------	0-8	10-18	8.0-15.0	7.9-9.0	15-25	---	0-2	1-5
	8-27	8-15	5.0-11.0	7.9-9.0	15-25	---	0-2	1-5
	27-60	5-15	3.0-9.0	7.9-9.0	15-25	---	0-4	1-5
1055:								
Pibler----------	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
Gravier---------	0-4	8-18	5.0-15.0	7.9-9.0	5-10	---	0-4	1-5
	4-50	8-18	5.0-15.0	7.9-9.0	15-30	---	4-8	13-30
	50-60	0-5	5.0-10.0	7.9-9.0	5-25	---	0-4	13-30
Izar----------	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
1056:								
Pibler----------	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
Valmy----------	0-6	5-15	5.0-20.0	8.5-9.6	---	---	0-4	1-12
	6-60	5-15	5.0-20.0	8.5-9.6	1-4	---	0-8	13-30
1060:								
Kzin----------	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1060 (con.):								
Holborn	0-3	18-27	10.0-25.0	7.9-9.0	1-10	---	0-2	---
	3-7	18-30	10.0-25.0	7.9-9.0	15-30	---	0-2	---
	7-17	---	---	---	---	---	---	---
Kzin	0-3	12-20	10.0-20.0	7.9-9.0	15-25	---	0-2	1-5
	3-6	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	6-10	---	---	---	---	---	---	---
1062:								
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
Jackpot	0-4	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	4-11	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	11-15	---	---	---	---	---	---	---
1064:								
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
Golsum	0-3	27-32	20.0-25.0	6.6-7.8	---	---	---	---
	3-16	35-50	30.0-44.0	6.6-7.8	---	---	---	---
	16-26	35-45	29.0-38.0	7.9-9.0	1-5	1-2	0-2	1-5
	26-32	---	---	---	---	---	---	---
Golsum	0-2	27-32	20.0-25.0	6.6-7.8	---	---	---	---
	2-12	35-50	30.0-44.0	6.6-7.8	---	---	---	---
	12-21	35-45	29.0-38.0	7.9-9.0	1-5	1-2	0-2	1-5
	21-30	---	---	---	---	---	---	---
1070:								
Loray	0-12	10-20	5.0-15.0	7.9-9.0	5-15	---	0-2	1-5
	12-61	0-8	1.0-8.0	7.9-9.0	5-20	---	0-4	5-12
Luap	0-3	8-18	5.0-12.0	7.9-9.0	5-10	---	0-2	1-5
	3-23	8-18	5.0-11.0	7.9-9.0	5-10	---	2-8	5-30
	23-37	2-8	1.0-5.0	7.9-9.0	10-15	---	2-8	5-30
	37-44	---	---	---	---	---	---	---
	44-61	2-8	1.0-5.0	7.9-9.0	15-25	---	2-8	13-30
Toano	0-8	10-18	6.0-13.0	7.9-8.4	10-20	---	2-4	1-5
	8-31	8-15	5.0-9.0	7.9-9.0	15-30	---	8-16	1-5
	31-46	8-15	5.0-9.0	7.9-9.0	15-30	0-1	4-8	1-5
	46-61	3-10	1.0-6.0	7.9-9.0	15-30	0-1	4-8	1-12
1071:								
Loray	0-12	0-10	1.0-10.0	7.9-9.0	1-10	---	0-2	1-5
	12-61	0-8	1.0-8.0	7.9-9.0	5-20	---	0-4	5-12

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1071 (con.):								
Luap	0-3	8-18	5.0-12.0	7.9-9.0	5-10	---	0-2	1-5
	3-23	8-18	5.0-11.0	7.9-9.0	5-10	---	2-8	5-30
	23-37	2-8	1.0-5.0	7.9-9.0	10-15	---	2-8	5-30
	37-44	---	---	---	---	---	---	---
	44-61	2-8	1.0-5.0	7.9-9.0	15-25	---	2-8	13-30
1072:								
Loray	0-12	0-10	1.0-10.0	7.9-9.0	1-10	---	0-2	1-5
	12-61	0-8	1.0-8.0	7.9-9.0	5-20	---	0-4	5-12
Loray	0-12	10-20	5.0-15.0	7.9-9.0	5-15	---	0-2	1-5
	12-61	0-8	1.0-8.0	7.9-9.0	5-20	---	0-4	5-12
Hardhat	0-5	8-18	5.0-15.0	7.9-9.0	1-10	---	0-2	1-5
	5-17	8-18	5.0-15.0	7.9-9.0	10-20	---	0-2	1-5
	17-32	5-15	5.0-15.0	7.9-9.0	10-20	1-2	2-8	5-12
	32-60	5-15	5.0-15.0	7.9-9.0	10-20	1-5	16-32	13-30
1120:								
Ashart	0-3	5-15	15.0-30.0	6.6-7.8	---	---	---	---
	3-7	10-20	20.0-36.0	6.6-7.8	---	---	---	---
	7-15	20-35	28.0-45.0	6.6-7.8	---	---	---	---
	15-25	---	---	---	---	---	---	---
Zark	0-5	5-15	7.0-15.0	6.6-7.8	---	---	---	---
	5-29	5-15	3.0-11.0	6.6-8.4	---	---	0-2	---
	29-35	5-15	3.0-11.0	7.4-8.4	0-1	---	0-2	---
	35-45	---	---	---	---	---	---	---
1140:								
Elocin	0-6	18-25	13.0-21.0	6.6-7.3	---	---	---	---
	6-10	25-35	17.0-25.0	6.6-7.3	---	---	---	---
	10-25	50-60	41.0-50.0	6.6-7.8	---	---	---	---
	25-36	50-60	41.0-50.0	7.4-7.8	---	---	0-2	---
	36-60	10-20	6.0-13.0	7.9-9.0	1-3	---	0-2	1-5
Stampede	0-5	20-25	15.0-25.0	6.1-7.3	---	---	---	---
	5-27	40-55	25.0-35.0	6.6-7.8	---	---	---	---
	27-60	---	---	---	---	---	---	---
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---
1141:								
Elocin	0-6	18-25	13.0-21.0	6.6-7.3	---	---	---	---
	6-10	25-35	17.0-25.0	6.6-7.3	---	---	---	---
	10-25	50-60	41.0-50.0	6.6-7.8	---	---	---	---
	25-36	50-60	41.0-50.0	7.4-7.8	---	---	0-2	---
	36-60	10-20	6.0-13.0	7.9-9.0	1-3	---	0-2	1-5
Donna	0-8	15-25	15.0-25.0	6.1-7.3	---	---	---	---
	8-22	60-70	45.0-55.0	6.6-7.3	---	---	---	---
	22-38	---	---	---	---	---	---	---
	38-68	15-25	10.0-15.0	7.4-8.4	0-5	---	0-4	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1190:								
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
Shalper	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Cleavage	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
1191:								
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
Tweener	0-6	15-20	10.0-15.0	6.6-7.3	---	---	---	---
	6-10	25-40	20.0-30.0	6.6-7.3	---	---	---	---
	10-14	---	---	---	---	---	---	---
Graley	0-9	10-18	10.0-20.0	6.6-7.8	---	---	---	---
	9-15	35-45	25.0-35.0	6.6-7.8	---	---	---	---
	15-19	---	---	---	---	---	---	---
1200:								
Xerxes	0-2	3-10	4.0-12.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---
Bluehill	0-9	1-10	8.0-14.0	7.4-8.4	---	---	0-2	---
	9-26	1-10	8.0-14.0	7.9-9.0	0-25	---	0-2	---
	26-30	---	---	---	---	---	---	---
1201:								
Xerxes	0-2	8-15	7.0-15.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---
Zark	0-5	5-15	7.0-15.0	6.6-7.8	---	---	---	---
	5-29	5-15	3.0-11.0	6.6-8.4	---	---	0-2	---
	29-35	5-15	3.0-11.0	7.4-8.4	0-1	---	0-2	---
	35-45	---	---	---	---	---	---	---
Ashart	0-3	5-15	15.0-30.0	6.6-7.8	---	---	---	---
	3-7	10-20	20.0-36.0	6.6-7.8	---	---	---	---
	7-15	20-35	28.0-45.0	6.6-7.8	---	---	---	---
	15-25	---	---	---	---	---	---	---
1203:								
Xerxes	0-2	8-15	7.0-15.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1203 (con.):								
Xerxes----------	0-2	3-10	4.0-12.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---
Shalper----------	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
1204:								
Xerxes----------	0-2	8-15	7.0-15.0	7.4-7.8	---	---	---	---
	2-5	8-15	5.0-11.0	7.4-7.8	---	---	0-2	---
	5-10	8-15	5.0-9.0	7.4-8.4	0-1	---	0-2	---
	10-20	---	---	---	---	---	---	---
Shalper----------	0-9	18-26	11.0-25.0	6.6-7.3	---	---	---	---
	9-12	24-35	12.0-25.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Bluehill---------	0-9	1-10	8.0-14.0	7.4-8.4	---	---	0-2	---
	9-26	1-10	8.0-14.0	7.9-9.0	0-25	---	0-2	---
	26-30	---	---	---	---	---	---	---
1400:								
Nevador----------	0-6	10-18	8.0-15.0	6.6-7.8	---	---	---	---
	6-24	25-35	15.0-23.0	6.6-8.4	---	---	0-4	---
	24-61	5-15	3.0-9.0	7.4-9.0	1-2	---	0-4	---
Zapa------------	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
2000:								
Shuttle----------	0-6	8-18	10.0-20.0	7.9-9.0	1-10	---	0-2	1-5
	6-19	8-18	10.0-20.0	7.9-9.0	5-15	---	4-16	13-30
	19-45	5-15	5.0-20.0	7.9-9.0	10-20	1-5	16-32	13-45
	45-60	---	---	---	---	---	---	---
Shafter----------	0-3	8-18	5.0-13.0	7.9-9.0	10-20	---	0-4	1-12
	3-14	8-18	5.0-11.0	7.9-9.0	10-20	---	0-4	1-12
	14-30	---	---	---	---	---	---	---
	30-61	0-8	0.0-5.0	7.9-9.0	5-15	---	0-2	5-12
Loray------------	0-12	10-20	5.0-15.0	7.9-9.0	5-15	---	0-2	1-5
	12-61	0-8	1.0-8.0	7.9-9.0	5-20	---	0-4	5-12
2001:								
Shuttle----------	0-6	8-18	10.0-20.0	7.9-9.0	1-10	---	0-2	1-5
	6-19	8-18	10.0-20.0	7.9-9.0	5-15	---	4-16	13-30
	19-45	5-15	5.0-20.0	7.9-9.0	10-20	1-5	16-32	13-45
	45-60	---	---	---	---	---	---	---
Hardhat----------	0-5	8-18	5.0-15.0	7.9-9.0	1-10	---	0-2	1-5
	5-17	8-18	5.0-15.0	7.9-9.0	10-20	---	0-2	1-5
	17-32	5-15	5.0-15.0	7.9-9.0	10-20	1-2	2-8	5-12
	32-60	5-15	5.0-15.0	7.9-9.0	10-20	1-5	16-32	13-30

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
2001 (con.):								
Shuttle	0-5	8-15	10.0-20.0	7.9-9.0	1-10	---	0-2	1-5
	5-15	8-18	10.0-20.0	7.9-9.0	5-15	---	4-16	13-30
	15-42	5-15	5.0-15.0	7.9-9.0	10-20	1-5	16-32	13-45
	42-61	5-15	5.0-15.0	7.9-9.0	10-25	1-5	16-32	31-45
2010:								
Wiffo Variant	0-17	14-20	9.0-16.0	6.6-7.8	0-5	---	0-2	---
	17-60	10-18	6.0-14.0	7.9-9.0	0-5	---	0-2	---
2030:								
Cavehill	0-9	18-27	15.0-30.0	7.9-9.0	10-20	---	---	---
	9-33	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	33-37	---	---	---	---	---	---	---
Nirac	0-10	10-18	10.0-15.0	7.4-8.4	5-10	---	---	---
	10-36	15-25	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	36-40	---	---	---	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
2040:								
Sodhouse	0-7	10-18	6.0-11.0	7.9-8.4	0-1	---	0-2	1-12
	7-14	10-18	6.0-11.0	7.9-8.4	5-15	---	0-2	13-45
	14-38	---	---	---	---	---	---	---
	38-61	2-15	6.0-11.0	7.9-9.0	5-10	---	0-4	13-45
Loray	0-12	10-20	5.0-15.0	7.9-9.0	5-15	---	0-2	1-5
	12-61	0-8	1.0-8.0	7.9-9.0	5-20	---	0-4	5-12
2042:								
Sodhouse	0-7	10-18	6.0-11.0	7.9-8.4	0-1	---	0-2	1-12
	7-14	10-18	6.0-11.0	7.9-8.4	5-15	---	0-2	13-45
	14-38	---	---	---	---	---	---	---
	38-61	2-15	6.0-11.0	7.9-9.0	5-10	---	0-4	13-45
Pibler	0-3	10-20	10.0-20.0	7.9-9.0	20-30	---	0-4	0-2
	3-10	8-18	7.0-15.0	7.9-9.0	20-30	---	0-4	0-2
	10-48	---	---	---	---	---	---	---
	48-61	0-5	4.0-12.0	7.9-9.0	20-30	---	0-4	0-2
2050:								
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
2051: Rock Outcrop.								
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
2053:								
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
Tecomar	0-5	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	5-15	20-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	15-25	---	---	---	---	---	---	---
Nirac	0-10	10-18	10.0-15.0	7.4-8.4	5-10	---	---	---
	10-36	15-25	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	36-40	---	---	---	---	---	---	---
2054:								
Rock Outcrop.								
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
2060:								
Appian	0-3	10-20	6.0-13.0	9.1-11.0	0-2	---	0-4	13-30
	3-8	30-35	18.0-22.0	9.1-11.0	0-10	0-1	0-4	31-90
	8-11	20-25	12.0-16.0	9.1-11.0	0-10	0-1	0-4	31-90
	11-60	0-8	0.0-6.0	9.1-11.0	0-5	0-1	0-4	13-45
Kawich	0-3	0-5	1.0-5.0	8.5-9.6	1-5	1-5	4-8	1-5
	3-60	0-5	1.0-5.0	8.5-9.6	1-10	1-5	4-8	1-5
Kawich	0-6	5-15	4.0-12.0	8.5-9.0	1-5	1-5	4-8	1-5
	6-70	0-5	1.0-5.0	8.5-9.6	1-10	1-5	4-8	1-5
2070:								
Kawich	0-6	5-15	4.0-12.0	8.5-9.0	1-5	1-5	4-8	1-5
	6-60	0-5	1.0-5.0	8.5-9.6	1-10	1-5	4-8	1-5
Kawich	0-4	0-5	1.0-5.0	8.5-9.6	1-5	1-5	4-8	1-5
	4-60	0-5	1.0-5.0	8.5-9.6	1-10	1-5	4-8	1-5
Ixian	0-12	20-27	12.0-16.0	8.5-9.0	10-30	---	4-8	13-30
	12-42	25-35	15.0-21.0	8.5-9.0	10-30	0-3	8-16	13-45
	42-63	30-45	18.0-27.0	8.5-9.0	10-30	2-5	8-32	13-45
2080:								
Toano	0-5	8-15	5.0-15.0	7.9-9.0	10-20	---	0-2	0-2
	5-31	8-15	5.0-15.0	7.9-9.0	15-30	0-1	0-4	0-2
	31-60	8-15	5.0-15.0	7.9-9.0	15-30	0-1	8-16	1-12
Toano	0-8	10-18	6.0-13.0	7.9-8.4	10-20	---	2-4	1-5
	8-31	8-15	5.0-9.0	7.9-9.0	15-30	---	8-16	1-5
	31-46	8-15	5.0-9.0	7.9-9.0	15-30	0-1	4-8	1-5
	46-61	3-10	1.0-6.0	7.9-9.0	15-30	0-1	4-8	1-12
2081:								
Toano	0-5	8-15	5.0-15.0	7.9-9.0	10-20	---	0-2	0-2
	5-31	8-15	5.0-15.0	7.9-9.0	15-30	0-1	0-4	0-2
	31-60	8-15	5.0-15.0	7.9-9.0	15-30	0-1	8-16	1-12
Tulase	0-6	8-18	7.0-15.0	7.9-8.4	5-10	---	0-2	---
	6-47	8-18	5.0-13.0	7.9-9.0	5-10	---	0-2	---
	47-60	28-35	17.0-21.0	7.9-9.0	10-15	---	0-2	1-5

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
2090:								
Toano	0-8	10-18	6.0-13.0	7.9-8.4	10-20	---	2-4	1-5
	8-31	8-15	5.0-9.0	7.9-9.0	15-30	---	8-16	1-5
	31-46	8-15	5.0-9.0	7.9-9.0	15-30	0-1	4-8	1-5
	46-61	3-10	1.0-6.0	7.9-9.0	15-30	0-1	4-8	1-12
Enko	0-4	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	4-18	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	18-25	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	25-60	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
	60-80	10-18	10.0-25.0	7.9-9.6	0-5	---	4-16	13-30
Sondoa	0-4	20-27	10.0-25.0	8.5-9.6	15-30	---	0-4	46-90
	4-63	25-35	20.0-30.0	8.5-9.6	10-25	---	8-16	91-130
3001:								
Ixian	0-12	20-27	12.0-16.0	8.5-9.0	10-30	---	4-8	13-30
	12-42	25-35	15.0-21.0	8.5-9.0	10-30	0-3	8-16	13-45
	42-63	30-45	18.0-27.0	8.5-9.0	10-30	2-5	8-32	13-45
Valmy	0-6	5-15	5.0-15.0	7.9-9.6	---	---	4-8	1-12
	6-60	5-15	5.0-25.0	8.5-9.6	1-4	---	0-8	13-30
3008:								
Tecomar	0-5	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	5-15	20-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	15-25	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---
Kram	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
3009:								
Tecomar	0-5	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	5-15	20-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	15-25	---	---	---	---	---	---	---
Shalcleav	0-4	15-20	15.0-20.0	6.6-7.3	---	---	---	---
	4-9	25-30	15.0-25.0	6.6-7.3	---	---	---	---
	9-12	35-45	20.0-30.0	6.6-7.3	---	---	---	---
	12-16	---	---	---	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---
3010:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
Gollaher	0-2	15-27	10.0-25.0	7.4-8.4	10-20	---	---	---
	2-6	15-27	5.0-20.0	7.4-8.4	25-40	---	0-2	---
	6-10	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
3012:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Kram	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
Amtoft	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---
3013: Rock Outcrop.								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
3014:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
3015:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
3016:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
3017:								
Tecomar	0-5	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	5-15	20-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	15-25	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
3017 (con.):								
Amtoft	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---
Shivlum	0-11	18-23	15.0-20.0	6.6-7.8	---	---	---	---
	11-60	25-35	15.0-25.0	6.6-7.8	---	---	---	---
3018:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Nirac	0-10	10-18	10.0-15.0	7.4-8.4	5-10	---	---	---
	10-36	15-25	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	36-40	---	---	---	---	---	---	---
Kram	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
3019:								
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Hopeka	0-9	18-27	10.0-20.0	7.9-9.0	30-50	---	0-2	---
	9-13	---	---	---	---	---	---	---
Ekim	0-9	20-27	20.0-24.0	7.9-8.4	1-5	---	0-2	---
	9-25	20-30	13.0-20.0	7.9-9.0	20-30	---	0-2	---
	25-33	---	---	---	---	---	---	---
3020:								
Amtoft	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
3021:								
Rock Outcrop.								
Amtoft	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-16	---	---	---	---	---	---	---
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
3023:								
Amtoft	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
3023 (con.):								
Jericho	0-7	10-18	10.0-16.0	7.9-9.0	5-10	---	0-2	0-2
	7-17	10-18	10.0-15.0	7.9-9.0	5-10	---	0-2	0-2
	17-31	---	---	---	---	---	---	---
	31-60	5-10	4.0-8.0	7.9-9.0	5-10	---	0-2	0-2
Tecomar	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
3025:								
Amtoft	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---
Arcia	0-9	18-27	17.0-26.0	6.6-7.3	---	---	---	---
	9-17	30-40	28.0-38.0	6.6-7.3	---	---	---	---
	17-32	40-60	34.0-52.0	6.6-7.3	---	---	---	---
	32-42	---	---	---	---	---	---	---
Kram	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
3030:								
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
Izar	0-5	18-25	15.0-20.0	7.4-8.4	1-10	---	0-2	---
	5-11	18-25	10.0-15.0	7.4-8.4	5-30	---	0-2	---
	11-15	---	---	---	---	---	---	---
Jackpot	0-4	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	4-11	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	11-15	---	---	---	---	---	---	---
3031:								
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
Hundraw	0-2	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	2-5	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	5-9	---	---	---	---	---	---	---
Jackpot	0-4	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	4-11	5-10	10.0-15.0	6.6-7.8	---	---	---	---
	11-15	---	---	---	---	---	---	---
3032:								
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
3032 (con.):								
Anowell	0-1	18-25	13.0-22.0	7.9-9.0	1-5	---	0-4	1-5
	1-6	25-35	16.0-25.0	7.9-9.0	1-5	---	0-4	1-5
	6-10	---	---	---	---	---	---	---
3033:								
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-33	---	---	---	---	---	---	---
Hundraw	0-3	8-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	3-8	8-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	8-12	---	---	---	---	---	---	---
Zapa	0-12	15-20	9.0-18.0	7.4-8.4	0-3	---	0-4	0-5
	12-25	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	0-12
	25-42	---	---	---	---	---	---	---
	42-60	10-20	5.0-15.0	7.9-9.0	5-10	---	0-4	13-30
3036:								
Cobre	0-6	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	6-13	15-25	10.0-20.0	7.4-8.4	0-5	---	0-2	---
	13-29	8-18	5.0-10.0	7.4-8.4	0-5	---	0-2	---
	29-62	---	---	---	---	---	---	---
Enko	0-3	10-18	10.0-25.0	6.6-8.4	---	---	0-4	0-5
	3-15	10-18	10.0-25.0	6.6-8.4	---	---	0-4	1-12
	15-26	10-18	10.0-25.0	7.4-9.0	0-5	---	0-8	5-12
	26-62	10-18	10.0-25.0	7.4-9.0	0-15	---	4-16	5-12
3040:								
Player	0-10	20-26	15.0-25.0	6.1-7.3	---	---	---	---
	10-47	45-60	35.0-50.0	6.1-7.3	---	---	---	---
	47-62	36-48	35.0-50.0	6.6-7.3	---	---	---	---
McIvey	0-13	20-27	15.0-25.0	6.6-7.3	---	---	---	---
	13-18	20-27	15.0-20.0	6.6-7.3	---	---	---	---
	18-23	30-40	20.0-30.0	6.1-7.3	---	---	---	---
	23-62	40-50	25.0-35.0	6.1-7.3	---	---	---	---
Hogmalat	0-3	12-20	7.0-15.0	5.6-6.0	---	---	---	---
	3-10	24-34	15.0-30.0	5.1-6.0	---	---	---	---
	10-14	---	---	---	---	---	---	---
3070:								
Arva	0-15	20-27	18.0-28.0	6.6-7.3	---	---	---	---
	15-44	45-60	38.0-54.0	6.6-7.3	---	---	---	---
	44-54	---	---	---	---	---	---	---
Chen	0-6	20-27	15.0-25.0	6.1-7.8	---	---	---	---
	6-12	40-55	25.0-40.0	6.1-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
Sumine	0-9	10-20	20.0-30.0	6.6-7.8	---	---	---	---
	9-26	25-35	20.0-30.0	6.6-7.8	---	---	---	---
	26-30	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
3080:								
Fenelon	0-6	18-25	15.0-23.0	7.4-7.8	---	---	---	---
	6-37	27-35	17.0-25.0	7.9-8.4	1-5	---	0-2	---
	37-47	---	---	---	---	---	---	---
Lerrow Variant	0-4	20-27	22.0-35.0	6.6-7.3	---	---	---	---
	4-27	45-55	35.0-50.0	6.6-7.3	---	---	---	---
	27-51	45-55	30.0-50.0	7.9-8.4	15-25	---	0-2	---
	51-61	15-20	10.0-17.0	7.9-8.4	20-40	---	0-2	0-5
Cotant	0-3	27-40	25.0-35.0	6.6-7.8	---	---	---	---
	3-12	40-60	35.0-50.0	6.6-7.8	---	---	---	---
	12-16	---	---	---	---	---	---	---
3081:								
Fenelon	0-6	18-25	15.0-23.0	7.4-7.8	---	---	---	---
	6-37	27-35	17.0-25.0	7.9-8.4	1-5	---	0-2	---
	37-47	---	---	---	---	---	---	---
Gochea	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
3100:								
Kleckner	0-7	15-25	13.0-21.0	6.6-7.8	---	---	---	---
	7-11	40-50	34.0-44.0	6.6-7.8	---	---	---	---
	11-42	35-50	28.0-42.0	6.6-7.8	---	---	---	---
	42-60	5-10	3.0-6.0	7.4-8.4	---	---	---	---
Stampede	0-5	20-25	15.0-25.0	6.1-7.3	---	---	---	---
	5-27	40-55	25.0-35.0	6.6-7.8	---	---	---	---
	27-60	---	---	---	---	---	---	---
4000:								
Wicup	0-10	27-35	18.0-27.0	6.6-7.3	---	---	---	---
	10-18	35-50	28.0-42.0	6.6-7.8	---	---	---	---
	18-30	35-50	28.0-41.0	7.4-8.4	1-3	---	0-2	---
	30-61	---	---	---	---	---	---	---
Anowell	0-2	18-25	13.0-22.0	7.9-9.0	1-5	---	0-4	1-5
	2-6	25-35	16.0-25.0	7.9-9.0	1-5	---	0-4	1-5
	6-10	---	---	---	---	---	---	---
Kzin	0-3	15-25	10.0-25.0	7.9-9.0	15-25	---	0-2	1-5
	3-8	15-25	10.0-20.0	7.9-9.0	15-30	---	0-2	1-5
	8-12	---	---	---	---	---	---	---
4001:								
Wicup	0-10	27-35	18.0-27.0	6.6-7.3	---	---	---	---
	10-18	35-50	28.0-42.0	6.6-7.8	---	---	---	---
	18-30	35-50	28.0-41.0	7.4-8.4	1-3	---	0-2	---
	30-61	---	---	---	---	---	---	---
Fenelon	0-6	18-25	15.0-23.0	7.4-7.8	---	---	---	---
	6-37	27-35	17.0-25.0	7.9-8.4	1-5	---	0-2	---
	37-47	---	---	---	---	---	---	---
Akler	0-6	18-25	15.0-20.0	6.6-7.8	---	---	---	---
	6-18	50-60	30.0-35.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
4002:								
Wicup----------	0-10	27-35	18.0-27.0	6.6-7.3	---	---	---	---
	10-18	35-50	28.0-42.0	6.6-7.8	---	---	---	---
	18-30	35-50	28.0-41.0	7.4-8.4	1-3	---	0-2	---
	30-61	---	---	---	---	---	---	---
Gochea----------	0-11	10-20	10.0-20.0	6.6-7.8	---	---	---	---
	11-25	25-35	15.0-25.0	7.4-7.8	---	---	---	---
	25-53	10-15	5.0-10.0	7.4-7.8	---	---	---	---
	53-75	2-5	0.0-5.0	7.4-7.8	---	---	---	---
Gumble----------	0-4	15-20	11.0-16.0	6.6-7.8	---	---	---	---
	4-16	40-60	33.0-50.0	7.4-8.4	0-5	---	0-2	---
	16-20	---	---	---	---	---	---	---
4020:								
Akler----------	0-7	18-27	15.0-20.0	6.6-7.8	---	---	---	---
	7-18	50-60	30.0-35.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Cleavage--------	0-7	15-25	15.0-25.0	6.6-7.8	---	---	---	---
	7-18	20-35	15.0-30.0	6.6-7.8	---	---	---	---
	18-22	---	---	---	---	---	---	---
Elocin----------	0-6	18-25	13.0-21.0	6.6-7.3	---	---	---	---
	6-10	25-35	17.0-25.0	6.6-7.3	---	---	---	---
	10-25	50-60	41.0-50.0	6.6-7.8	---	---	---	---
	25-36	50-60	41.0-50.0	7.4-7.8	---	---	0-2	---
	36-60	10-20	6.0-13.0	7.9-9.0	1-3	---	0-2	1-5
4040:								
Kram----------	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
Amtoft----------	0-3	15-25	15.0-24.0	7.9-9.0	20-40	---	0-2	0-5
	3-12	15-25	14.0-20.0	7.9-9.0	20-40	---	0-2	0-5
	12-22	---	---	---	---	---	---	---
Nirac----------	0-10	10-18	10.0-15.0	7.4-8.4	5-10	---	---	---
	10-36	15-25	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	36-40	---	---	---	---	---	---	---
4041:								
Kram----------	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
Tecomar---------	0-7	18-27	10.0-20.0	7.9-9.0	10-30	---	0-2	---
	7-19	18-27	5.0-15.0	7.9-9.0	20-40	---	0-2	1-5
	19-29	---	---	---	---	---	---	---
4042:								
Kram----------	0-3	8-18	7.0-15.0	7.9-9.0	20-30	---	0-2	---
	3-9	8-18	5.0-13.0	7.9-9.0	20-30	---	2-8	1-5
	9-13	---	---	---	---	---	---	---
Hooplite--------	0-6	12-22	8.0-16.0	7.4-8.4	0-1	---	0-4	---
	6-9	22-30	14.0-20.0	7.4-8.4	1-2	---	0-4	---
	9-13	---	---	---	---	---	---	---

TABLE 11.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
4042 (con.):								
Yuko	0-4	5-15	5.0-10.0	6.6-7.3	---	---	---	---
	4-8	30-40	20.0-25.0	6.6-7.3	---	---	---	---
	8-10	35-45	20.0-30.0	7.4-7.8	---	---	---	---
	10-14	---	---	---	---	---	---	---

TABLE 12.--WATER FEATURES

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
10:									
Yuko	D	None	---	---	>6.0	---	---	---	---
Akler	D	None	---	---	>6.0	---	---	---	---
20:									
Donna	D	None	---	---	>6.0	---	---	---	---
Igdell	C	None	---	---	>6.0	---	---	---	---
Vanwyper	C	None	---	---	>6.0	---	---	---	---
21:									
Donna	D	None	---	---	>6.0	---	---	---	---
Stampede	D	None	---	---	>6.0	---	---	---	---
22:									
Donna	D	None	---	---	>6.0	---	---	---	---
Igdell	C	None	---	---	>6.0	---	---	---	---
Donna	D	None	---	---	>6.0	---	---	---	---
23:									
Donna	D	None	---	---	>6.0	---	---	---	---
Kleckner	C	None	---	---	>6.0	---	---	---	---
Donna	D	None	---	---	>6.0	---	---	---	---
31:									
Welch	D	Occasional	Brief	Mar-Jun	1.0-1.5	Apparent	Nov-Jun	---	---
Crooked Creek	D	Frequent	Brief	Mar-Jun	1.0-1.5	Apparent	Jan-Jun	---	---
32:									
Welch	D	Frequent	Brief	Mar-Jun	1.0-1.5	Apparent	Nov-Jun	---	---
Kelk	C	Rare	---	---	>6.0	---	---	---	---
34:									
Welch	B	Rare	---	---	4.0-6.0	Apparent	Mar-Jun	---	---
Crooked Creek	C	Rare	---	---	5.0-6.0	Apparent	Jan-Mar	---	---
35:									
Welch	C	Rare	---	---	4.0-6.0	Apparent	Nov-Jun	---	---
Welch	D	Frequent	Brief	Mar-Jun	1.0-1.5	Apparent	Nov-Jun	---	---
Gochea	B	None	---	---	>6.0	---	---	---	---
40:									
McIvey	C	None	---	---	>6.0	---	---	---	---
Quarz	C	None	---	---	>6.0	---	---	---	---
60:									
Coser	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
60 (con.):									
Arva	D	None	---	---	>6.0	---	---	---	---
Lerrow	C	None	---	---	>6.0	---	---	---	---
70:									
Stampede	D	None	---	---	>6.0	---	---	---	---
Donna	D	None	---	---	>6.0	---	---	---	---
72:									
Stampede	D	None	---	---	>6.0	---	---	---	---
Simon	B	None	---	---	>6.0	---	---	---	---
Arva	D	None	---	---	>6.0	---	---	---	---
80:									
Wieland	C	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
81:									
Wieland	C	None	---	---	>6.0	---	---	---	---
Gance	C	None	---	---	>6.0	---	---	---	---
Nevador	B	None	---	---	>6.0	---	---	---	---
82:									
Wieland	C	None	---	---	>6.0	---	---	---	---
Hunnton	C	None	---	---	>6.0	---	---	---	---
Hunewill	B	None	---	---	>6.0	---	---	---	---
83:									
Wieland	C	None	---	---	>6.0	---	---	---	---
Nevador	B	None	---	---	>6.0	---	---	---	---
Donna	D	None	---	---	>6.0	---	---	---	---
90:									
Hunnton	C	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
Bilbo	C	None	---	---	>6.0	---	---	---	---
93:									
Hunnton	C	None	---	---	>6.0	---	---	---	---
Wieland	C	None	---	---	>6.0	---	---	---	---
94:									
Hunnton	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
94 (con.):									
Chiara	D	None	---	---	>6.0	---	---	---	---
Wieland	C	None	---	---	>6.0	---	---	---	---
120:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
121:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
123:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Oupico	C	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
124:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Gance	C	None	---	---	>6.0	---	---	---	---
125:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
126:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
127:									
Peeko	D	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
129:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Chuska	D	None	---	---	>6.0	---	---	---	---
130:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Wieland	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				Maximum ponding depth
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	
					Ft				Ft
130 (con.):									
Bilbo	C	None	---	---	>6.0	---	---	---	---
131:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Hunnton	C	None	---	---	>6.0	---	---	---	---
Gance	C	None	---	---	>6.0	---	---	---	---
132:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Bilbo	C	None	---	---	>6.0	---	---	---	---
133:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
Hunnton	C	None	---	---	>6.0	---	---	---	---
135:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
136:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Nevador	B	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
137:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Gochea	B	None	---	---	>6.0	---	---	---	---
138:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Jackpot	C	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
139:									
Dewar	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
140:									
Chiara	D	None	---	---	>6.0	---	---	---	---
Wieland	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
140 (con.):									
Enko	C	None	---	---	>6.0	---	---	---	---
141:									
Chiara	D	None	---	---	>6.0	---	---	---	---
Kelk	C	None	---	---	>6.0	---	---	---	---
Kelk	C	Rare	---	---	>6.0	---	---	---	---
144:									
Chiara	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
150:									
Shalper	D	None	---	---	>6.0	---	---	---	---
Tusel	B	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
151:									
Shalper	D	None	---	---	>6.0	---	---	---	---
Soughe	D	None	---	---	>6.0	---	---	---	---
154:									
Shalper	D	None	---	---	>6.0	---	---	---	---
Contact	A	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
155:									
Shalper	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
Pequop	B	None	---	---	>6.0	---	---	---	---
156:									
Shalper	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
160:									
Dacker	C	None	---	---	>6.0	---	---	---	---
Nevador	B	None	---	---	>6.0	---	---	---	---
Kelk	C	None	---	---	>6.0	---	---	---	---
161:									
Dacker	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
161 (con.):									
Yuko	D	None	---	---	>6.0	---	---	---	---
Wieland	C	None	---	---	>6.0	---	---	---	---
163:									
Dacker	C	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
170:									
Enko	C	None	---	---	>6.0	---	---	---	---
Kelk	C	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
171:									
Enko	C	None	---	---	>6.0	---	---	---	---
Chiara	D	None	---	---	>6.0	---	---	---	---
Kelk	C	None	---	---	>6.0	---	---	---	---
174:									
Enko	C	None	---	---	>6.0	---	---	---	---
Jericho	D	None	---	---	>6.0	---	---	---	---
175:									
Wiffo	B	None	---	---	>6.0	---	---	---	---
Nevador	B	None	---	---	>6.0	---	---	---	---
180:									
Sonoma	B	Rare	---	---	>6.0	---	---	---	---
Devilsgait	C	Occasional	Long	Mar-Jun	4.0-6.0	Apparent	Feb-Jul	---	---
Sonoma	C	None	---	---	3.5-5.0	Apparent	Mar-Jun	---	---
182:									
Sonoma	C	Frequent	Long	Feb-Jun	1.5-3.0	Apparent	Feb-Jun	---	---
Devilsgait	D	Frequent	Long	Mar-Jun	0.0-1.5	Apparent	Feb-Jul	---	---
Sonoma	C	Occasional	Long	Mar-Jun	3.5-5.0	Apparent	Mar-Jun	---	---
183:									
Sonoma	C	Frequent	Long	Dec-Jun	1.5-3.0	Apparent	Feb-Jun	---	---
Sonoma	C	Occasional	Long	Mar-Jun	3.5-5.0	Apparent	Mar-Jun	---	---
185:									
Sonoma	C	Frequent	Long	Feb-Jun	1.5-3.0	Apparent	Feb-Jun	---	---
Ocala Variant	D	Frequent	Long	Mar-Jun	1.0-2.5	Apparent	Feb-Jun	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
186:									
Sondoa	B	None	---	---	>6.0	---	---	---	---
Ixian	C	Rare	---	---	3.5-5.0	Apparent	Nov-Mar	---	---
Ixian	C	Rare	---	---	3.5-5.0	Apparent	Nov-Mar	---	---
187:									
Sonoma	C	Occasional	Long	Mar-Jun	3.5-5.0	Apparent	Mar-Jun	---	---
Deleplain	D	Frequent	Long	Mar-Jun	0.5-2.5	Apparent	Mar-Jul	---	---
Ocala	C	Occasional	Long	Mar-Jun	3.0-3.5	Apparent	Feb-Jun	---	---
190:									
Forvic	C	None	---	---	>6.0	---	---	---	---
Igdell	C	None	---	---	>6.0	---	---	---	---
191:									
Forvic	C	None	---	---	>6.0	---	---	---	---
Chayson	C	None	---	---	>6.0	---	---	---	---
Igdell	C	None	---	---	>6.0	---	---	---	---
195:									
Chayson	C	None	---	---	>6.0	---	---	---	---
Igdell	C	None	---	---	>6.0	---	---	---	---
211:									
Crooked Creek	C	Rare	---	---	5.0-6.0	Apparent	Jan-Mar	---	---
Crooked Creek	D	Frequent	Brief	Mar-Jun	1.0-1.5	Apparent	Jan-Jul	---	---
Welch	B	Rare	---	---	4.0-6.0	Apparent	Mar-Jun	---	---
219:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
220:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
221:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
222:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
222 (con.):									
Coser	D	None	---	---	>6.0	---	---	---	---
223:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
224:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Graley	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
225:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Rodie	B	None	---	---	>6.0	---	---	---	---
Lerrow	C	None	---	---	>6.0	---	---	---	---
226:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Quopant	D	None	---	---	>6.0	---	---	---	---
Rodie	B	None	---	---	>6.0	---	---	---	---
227:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Rodie	B	None	---	---	>6.0	---	---	---	---
228:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Rodie	B	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
229:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
232:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Quarz	C	None	---	---	>6.0	---	---	---	---
235:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
235 (con.):									
Shalper	D	None	---	---	>6.0	---	---	---	---
236:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
McIvey	C	None	---	---	>6.0	---	---	---	---
237:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
Keman	B	None	---	---	>6.0	---	---	---	---
238:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
239:									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Tweener	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
240:									
Gumble	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
250:									
Chuska	D	None	---	---	>6.0	---	---	---	---
Chuska	D	None	---	---	>6.0	---	---	---	---
Soughe	D	None	---	---	>6.0	---	---	---	---
251:									
Chuska	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
252:									
Chuska	D	None	---	---	>6.0	---	---	---	---
Jackpot	C	None	---	---	>6.0	---	---	---	---
Soughe	D	None	---	---	>6.0	---	---	---	---
253:									
Chuska	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
253 (con.):									
Jackpot	C	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
260:									
Bancy	D	None	---	---	>6.0	---	---	---	---
Heckison	D	None	---	---	>6.0	---	---	---	---
270:									
Cameek	D	None	---	---	>6.0	---	---	---	---
Bilbo	C	None	---	---	>6.0	---	---	---	---
Cameek	D	None	---	---	>6.0	---	---	---	---
280:									
Quarz	C	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
281:									
Quarz	C	None	---	---	>6.0	---	---	---	---
Cotant	D	None	---	---	>6.0	---	---	---	---
282:									
Quarz	C	None	---	---	>6.0	---	---	---	---
Quarz	C	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
290:									
Gochea	B	None	---	---	>6.0	---	---	---	---
Vadaho	D	None	---	---	>6.0	---	---	---	---
291:									
Gochea	B	None	---	---	>6.0	---	---	---	---
Simon	B	None	---	---	>6.0	---	---	---	---
300:									
Ola	C	None	---	---	>6.0	---	---	---	---
Earcree	B	None	---	---	>6.0	---	---	---	---
Ola	C	None	---	---	>6.0	---	---	---	---
310:									
Agort	C	None	---	---	>6.0	---	---	---	---
Xica	C	None	---	---	>6.0	---	---	---	---
Xica	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
320:									
Hussell	B	None	---	---	>6.0	---	---	---	---
Nevador	B	None	---	---	>6.0	---	---	---	---
340:									
Xipe	D	Frequent	Long	Jan-Jun	0.0-1.5	Apparent	Jan-Jun	---	---
Valmy	B	None	---	---	>6.0	---	---	---	---
Ocala	C	Rare	---	---	3.5-5.0	Apparent	Feb-May	---	---
341:									
Xipe	C	Rare	---	---	3.0-5.0	Apparent	Jan-Jun	---	---
Batan	B	None	---	---	>6.0	---	---	---	---
Devilsgait	C	Rare	---	---	4.0-6.0	Apparent	Feb-Jul	---	---
380:									
Elhina	C	None	---	---	>6.0	---	---	---	---
400:									
Zapa	C	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
Chuska	D	None	---	---	>6.0	---	---	---	---
401:									
Zapa	C	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
403:									
Zapa	C	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
404:									
Zapa	C	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Oupico	C	None	---	---	>6.0	---	---	---	---
405:									
Zapa	C	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
406:									
Zapa	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
406 (con.):									
Pibler	D	None	---	---	>6.0	---	---	---	---
407:									
Zapa	C	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
410:									
Coser	D	None	---	---	>6.0	---	---	---	---
McIvey	C	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
411:									
Coser	D	None	---	---	>6.0	---	---	---	---
Coser	D	None	---	---	>6.0	---	---	---	---
McIvey	C	None	---	---	>6.0	---	---	---	---
412:									
Coser	D	None	---	---	>6.0	---	---	---	---
Coser	D	None	---	---	>6.0	---	---	---	---
Lerrow	C	None	---	---	>6.0	---	---	---	---
414:									
Coser	D	None	---	---	>6.0	---	---	---	---
Forvic	C	None	---	---	>6.0	---	---	---	---
Scalfar	B	None	---	---	>6.0	---	---	---	---
415:									
Coser	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Pequop	B	None	---	---	>6.0	---	---	---	---
417:									
Coser	D	None	---	---	>6.0	---	---	---	---
Fez	C	None	---	---	>6.0	---	---	---	---
Quopant	D	None	---	---	>6.0	---	---	---	---
418:									
Rodie	B	None	---	---	>6.0	---	---	---	---
Rubble Land	A	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
419:									
Rodie	B	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
419 (con.):									
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Pequop	B	None	---	---	>6.0	---	---	---	---
420:									
Rodie	B	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Agassiz	D	None	---	---	>6.0	---	---	---	---
421:									
Rodie	B	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Keman	B	None	---	---	>6.0	---	---	---	---
422:									
Rodie	B	None	---	---	>6.0	---	---	---	---
Quarz	C	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
423:									
Quopant	D	None	---	---	>6.0	---	---	---	---
Coser	D	None	---	---	>6.0	---	---	---	---
Lerrow	C	None	---	---	>6.0	---	---	---	---
430:									
Ocala	C	Occasional	Long	Mar-Jun	3.0-3.5	Apparent	Feb-Jun	---	---
Kelk	C	Rare	---	---	>6.0	---	---	---	---
431:									
Ocala	C	Occasional	Long	Mar-Jun	3.0-3.5	Apparent	Feb-Jun	---	---
Batan	B	None	---	---	>6.0	---	---	---	---
Devilsgait	C	Occasional	Long	Mar-Jun	4.0-6.0	Apparent	Feb-Jul	---	---
432:									
Ocala	C	Rare	---	---	3.5-5.0	Apparent	Feb-May	---	---
Ixian	C	Rare	---	---	3.5-5.0	Apparent	Nov-Mar	---	---
462:									
Graley	D	None	---	---	>6.0	---	---	---	---
Chen	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
470:									
Chen	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
470 (con.):									
Graley	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
472:									
Chen	D	None	---	---	>6.0	---	---	---	---
Coser	D	None	---	---	>6.0	---	---	---	---
473:									
Chen	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
474:									
Chen	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Vitale	C	None	---	---	>6.0	---	---	---	---
480:									
Devilsgait	C	Rare	---	---	4.0-6.0	Apparent	Feb-Jul	---	---
Kelk	C	None	---	---	>6.0	---	---	---	---
481:									
Devilsgait	D	Frequent	Long	Mar-Jun	0.0-1.5	Apparent	Feb-Jul	---	---
Batan	B	None	---	---	>6.0	---	---	---	---
Devilsgait	C	Rare	---	---	4.0-6.0	Apparent	Feb-Jul	---	---
482:									
Devilsgait	D	Frequent	Long	Mar-Jun	0.0-1.5	Apparent	Feb-Jul	---	---
483:									
Devilsgait	D	Frequent	Long	Mar-Jun	0.0-1.5	Apparent	Feb-Jul	---	---
Valmy	B	None	---	---	>6.0	---	---	---	---
490:									
Loncan	C	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
520:									
Halleck	C	Frequent	Long	Mar-Jun	1.5-2.5	Apparent	Feb-Jul	---	---
521:									
Halleck	B	Rare	---	---	3.5-5.0	Apparent	Mar-Jun	---	---
Halleck	C	Rare	---	---	4.0-6.0	Apparent	Feb-Jul	---	---
530:									
Ekim	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
530 (con.):									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Loncan	C	None	---	---	>6.0	---	---	---	---
540:									
Sumine	C	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
541:									
Sumine	C	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Bullump	B	None	---	---	>6.0	---	---	---	---
542:									
Sumine	C	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Hackwood	B	None	---	---	>6.0	---	---	---	---
543:									
Sumine	C	None	---	---	>6.0	---	---	---	---
Pernty	D	None	---	---	>6.0	---	---	---	---
Tusel	B	None	---	---	>6.0	---	---	---	---
550:									
Bullump	B	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
560:									
Amene	D	None	---	---	>6.0	---	---	---	---
Belsac	B	None	---	---	>6.0	---	---	---	---
Onkeyo	D	None	---	---	>6.0	---	---	---	---
561:									
Amene	D	None	---	---	>6.0	---	---	---	---
Ekim	C	None	---	---	>6.0	---	---	---	---
Agassiz	D	None	---	---	>6.0	---	---	---	---
570:									
Tusel	B	None	---	---	>6.0	---	---	---	---
Belsac Variant	B	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
580:									
Kelk	C	None	---	---	>6.0	---	---	---	---
Sonoma	B	Rare	---	---	>6.0	---	---	---	---
582:									
Kelk	C	None	---	---	>6.0	---	---	---	---
Devilsgait	C	Rare	---	---	4.0-6.0	Apparent	Feb-Jul	---	---
Welch	D	Frequent	Brief	Mar-Jun	1.0-1.5	Apparent	Nov-Jun	---	---
585:									
Valmy	B	None	---	---	>6.0	---	---	---	---
Luap	C	None	---	---	>6.0	---	---	---	---
590:									
Valmy	B	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
610:									
Grina	D	None	---	---	>6.0	---	---	---	---
Gochea	B	None	---	---	>6.0	---	---	---	---
620:									
Vadaho	D	None	---	---	>6.0	---	---	---	---
Vadaho	D	None	---	---	>6.0	---	---	---	---
621:									
Vadaho	D	None	---	---	>6.0	---	---	---	---
Vadaho	D	None	---	---	>6.0	---	---	---	---
Stampede	D	None	---	---	>6.0	---	---	---	---
631:									
Pernty	D	None	---	---	>6.0	---	---	---	---
McIvey	C	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
632:									
Pernty	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
633:									
Pernty	D	None	---	---	>6.0	---	---	---	---
Tweener	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
651:									
Scalfar	B	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Hackwood	B	None	---	---	>6.0	---	---	---	---
652:									
Scalfar	B	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Quopant	D	None	---	---	>6.0	---	---	---	---
655:									
Scalfar	B	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
656:									
Scalfar	B	None	---	---	>6.0	---	---	---	---
Fenelon	C	None	---	---	>6.0	---	---	---	---
Booford	C	None	---	---	>6.0	---	---	---	---
660:									
Hooplite	D	None	---	---	>6.0	---	---	---	---
Hooplite	D	None	---	---	>6.0	---	---	---	---
661:									
Hooplite	D	None	---	---	>6.0	---	---	---	---
Hooplite	D	None	---	---	>6.0	---	---	---	---
Ackett	D	None	---	---	>6.0	---	---	---	---
662:									
Hooplite	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
664:									
Hooplite	D	None	---	---	>6.0	---	---	---	---
Hooplite	D	None	---	---	>6.0	---	---	---	---
Kram	D	None	---	---	>6.0	---	---	---	---
665:									
Hooplite	D	None	---	---	>6.0	---	---	---	---
Hooplite	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
666:									
Hooplite	D	None	---	---	>6.0	---	---	---	---
Hooplite	D	None	---	---	>6.0	---	---	---	---
Kleckner	C	None	---	---	>6.0	---	---	---	---
670:									
Ackett	D	None	---	---	>6.0	---	---	---	---
Kleckner	C	None	---	---	>6.0	---	---	---	---
Anowell	D	None	---	---	>6.0	---	---	---	---
672:									
Ackett	D	None	---	---	>6.0	---	---	---	---
Ackett	D	None	---	---	>6.0	---	---	---	---
Cameek	D	None	---	---	>6.0	---	---	---	---
673:									
Ackett	D	None	---	---	>6.0	---	---	---	---
Ackett	D	None	---	---	>6.0	---	---	---	---
Gance	C	None	---	---	>6.0	---	---	---	---
674:									
Ackett	D	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
678:									
Izar	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
679:									
Izar	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
680:									
Izar	D	None	---	---	>6.0	---	---	---	---
Holborn	C	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
681:									
Izar	D	None	---	---	>6.0	---	---	---	---
Loomis	D	None	---	---	>6.0	---	---	---	---
Vanwyper	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
682:									
Izar	D	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
683:									
Izar	D	None	---	---	>6.0	---	---	---	---
Holborn	C	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
684:									
Izar	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
685:									
Izar	D	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
686:									
Izar	D	None	---	---	>6.0	---	---	---	---
Vanwyper	C	None	---	---	>6.0	---	---	---	---
687:									
Izar	D	None	---	---	>6.0	---	---	---	---
Wiffo	B	None	---	---	>6.0	---	---	---	---
688:									
Izar	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
689:									
Izar	D	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
690:									
Oupico	C	None	---	---	>6.0	---	---	---	---
Oupico	C	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
691:									
Oupico	C	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
700:									
Xica	C	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
701:									
Xica	C	None	---	---	>6.0	---	---	---	---
Xica	C	None	---	---	>6.0	---	---	---	---
Agort	C	None	---	---	>6.0	---	---	---	---
730:									
Geysen	C	None	---	---	>6.0	---	---	---	---
Welch	B	Rare	---	---	4.0-6.0	Apparent	Mar-Jun	---	---
Batan	B	None	---	---	>6.0	---	---	---	---
731:									
Geysen	C	None	---	---	>6.0	---	---	---	---
Crooked Creek	C	Rare	---	---	5.0-6.0	Apparent	Jan-Mar	---	---
Batan	B	None	---	---	>6.0	---	---	---	---
742:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Vitale	C	None	---	---	>6.0	---	---	---	---
743:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
744:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Graley	D	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
745:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Graley	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
746:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Hackwood	B	None	---	---	>6.0	---	---	---	---
Graley	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
747:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Keman	B	None	---	---	>6.0	---	---	---	---
Hogmalat	D	None	---	---	>6.0	---	---	---	---
748:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Quopant	D	None	---	---	>6.0	---	---	---	---
749:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Snotown	B	None	---	---	>6.0	---	---	---	---
Chen	D	None	---	---	>6.0	---	---	---	---
750:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Bullump	B	None	---	---	>6.0	---	---	---	---
Hackwood	B	None	---	---	>6.0	---	---	---	---
751:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
752:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
Lerrow	C	None	---	---	>6.0	---	---	---	---
753:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
754:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
755:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
755 (con.):									
Hapgood	B	None	---	---	>6.0	---	---	---	---
756:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
Pernty	D	None	---	---	>6.0	---	---	---	---
757:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
Snotown	B	None	---	---	>6.0	---	---	---	---
758:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Tweener	D	None	---	---	>6.0	---	---	---	---
Graley	D	None	---	---	>6.0	---	---	---	---
759:									
Cleavage	D	None	---	---	>6.0	---	---	---	---
Tweener	D	None	---	---	>6.0	---	---	---	---
Scalfar	B	None	---	---	>6.0	---	---	---	---
760:									
Jericho	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
761:									
Jericho	D	None	---	---	>6.0	---	---	---	---
Gance	C	None	---	---	>6.0	---	---	---	---
762:									
Jericho	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Gance	C	None	---	---	>6.0	---	---	---	---
763:									
Jericho	D	None	---	---	>6.0	---	---	---	---
Pamison	B	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
764:									
Jericho	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
764 (con.):									
Jericho	D	None	---	---	>6.0	---	---	---	---
765:									
Jericho	D	None	---	---	>6.0	---	---	---	---
Pequop	B	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
780:									
Puett	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---
781:									
Puett	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
790:									
Loomis	D	None	---	---	>6.0	---	---	---	---
Ackett	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
796:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
797:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Amene	D	None	---	---	>6.0	---	---	---	---
798:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Amene	D	None	---	---	>6.0	---	---	---	---
Hackwood	B	None	---	---	>6.0	---	---	---	---
799:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
Vitale	C	None	---	---	>6.0	---	---	---	---
801:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Amene	D	None	---	---	>6.0	---	---	---	---
Onkeyo	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
802:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Hackwood	B	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
804:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Onkeyo	D	None	---	---	>6.0	---	---	---	---
Nirac	C	None	---	---	>6.0	---	---	---	---
805:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Ekim	C	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
806:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Vitale	C	None	---	---	>6.0	---	---	---	---
807:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Belsac	B	None	---	---	>6.0	---	---	---	---
808:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Hapgood	B	None	---	---	>6.0	---	---	---	---
809:									
Gollaher	D	None	---	---	>6.0	---	---	---	---
Xica	C	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
810:									
Igdell	C	None	---	---	>6.0	---	---	---	---
Kleckner	C	None	---	---	>6.0	---	---	---	---
820:									
Cotant	D	None	---	---	>6.0	---	---	---	---
Eboda	B	None	---	---	>6.0	---	---	---	---
Coser	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
822:									
Cotant----------	D	None	---	---	>6.0	---	---	---	---
Chen----------	D	None	---	---	>6.0	---	---	---	---
Graley----------	D	None	---	---	>6.0	---	---	---	---
830:									
Onkeyo----------	D	None	---	---	>6.0	---	---	---	---
Pequop----------	B	None	---	---	>6.0	---	---	---	---
Sumine----------	C	None	---	---	>6.0	---	---	---	---
850:									
Pamison---------	B	None	---	---	>6.0	---	---	---	---
Affey-----------	C	None	---	---	>6.0	---	---	---	---
Pamison---------	B	None	---	---	>6.0	---	---	---	---
851:									
Pamison---------	B	None	---	---	>6.0	---	---	---	---
Amtoft----------	D	None	---	---	>6.0	---	---	---	---
Coser-----------	D	None	---	---	>6.0	---	---	---	---
880:									
Heckison--------	D	None	---	---	>6.0	---	---	---	---
Xerxes----------	D	None	---	---	>6.0	---	---	---	---
Shalper---------	D	None	---	---	>6.0	---	---	---	---
881:									
Gochea----------	B	None	---	---	>6.0	---	---	---	---
Chayson---------	C	None	---	---	>6.0	---	---	---	---
Pamison---------	B	None	---	---	>6.0	---	---	---	---
930:									
Orovada---------	B	None	---	---	>6.0	---	---	---	---
Kelk------------	C	None	---	---	>6.0	---	---	---	---
Orovada---------	B	None	---	---	>6.0	---	---	---	---
931:									
Orovada---------	B	None	---	---	>6.0	---	---	---	---
Oupico----------	C	None	---	---	>6.0	---	---	---	---
Izar------------	D	None	---	---	>6.0	---	---	---	---
932:									
Orovada---------	B	None	---	---	>6.0	---	---	---	---
Xipe------------	D	Frequent	Long	Jan-Jun	0.0-1.5	Apparent	Jan-Jun	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				Maximum ponding depth
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	
					Ft				Ft
932 (con.):									
Ocala	C	Occasional	Long	Mar-Jun	3.0-3.5	Apparent	Feb-Jun	---	---
940:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Anowell	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
941:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
942:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Cobre	C	None	---	---	>6.0	---	---	---	---
Anowell	D	None	---	---	>6.0	---	---	---	---
943:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---
Cobre	C	None	---	---	>6.0	---	---	---	---
944:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Peeko	D	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
945:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
946:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Cobre	C	None	---	---	>6.0	---	---	---	---
947:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Kelk	C	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
948:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Puett	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
948 (con.):									
Trinidad	D	None	---	---	>6.0	---	---	---	---
949:									
Hundraw	D	None	---	---	>6.0	---	---	---	---
Quopant	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
961:									
Trinidad	D	None	---	---	>6.0	---	---	---	---
Trinidad	D	None	---	---	>6.0	---	---	---	---
Izod	D	None	---	---	>6.0	---	---	---	---
970:									
Hunewill	B	None	---	---	>6.0	---	---	---	---
Bilbo	C	None	---	---	>6.0	---	---	---	---
Devilsgait	C	Rare	---	---	4.0-6.0	Apparent	Feb-Jul	---	---
980:									
Boso	D	None	---	---	>6.0	---	---	---	---
Dewar	D	None	---	---	>6.0	---	---	---	---
990:									
Bluehill	C	None	---	---	>6.0	---	---	---	---
Tomsherry	C	None	---	---	>6.0	---	---	---	---
Xerxes	D	None	---	---	>6.0	---	---	---	---
1010:									
Agassiz	D	None	---	---	>6.0	---	---	---	---
Croesus	C	None	---	---	>6.0	---	---	---	---
Rubble Land	A	None	---	---	>6.0	---	---	---	---
1040:									
Gravier	B	None	---	---	>6.0	---	---	---	---
Shafter	D	None	---	---	>6.0	---	---	---	---
Toano	B	Occasional	---	Feb-May	>6.0	---	---	---	---
1041:									
Gravier	B	None	---	---	>6.0	---	---	---	---
Wiffo	B	None	---	---	>6.0	---	---	---	---
1042:									
Gravier	B	None	---	---	>6.0	---	---	---	---
Pibler	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				Maximum ponding depth
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	
					Ft				Ft
1043:									
Gravier	B	None	---	---	>6.0	---	---	---	---
Luap	C	None	---	---	>6.0	---	---	---	---
1050:									
Pibler	D	None	---	---	>6.0	---	---	---	---
Pibler	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
1051:									
Pibler	D	None	---	---	>6.0	---	---	---	---
Pibler	D	None	---	---	>6.0	---	---	---	---
1052:									
Pibler	D	None	---	---	>6.0	---	---	---	---
Gravier	B	None	---	---	>6.0	---	---	---	---
1054:									
Pibler	D	None	---	---	>6.0	---	---	---	---
Wiffo	B	None	---	---	>6.0	---	---	---	---
1055:									
Pibler	D	None	---	---	>6.0	---	---	---	---
Gravier	B	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
1056:									
Pibler	D	None	---	---	>6.0	---	---	---	---
Valmy	B	None	---	---	>6.0	---	---	---	---
1060:									
Kzin	D	None	---	---	>6.0	---	---	---	---
Holborn	C	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
1062:									
Kzin	D	None	---	---	>6.0	---	---	---	---
Cobre	C	None	---	---	>6.0	---	---	---	---
Jackpot	C	None	---	---	>6.0	---	---	---	---
1064:									
Kzin	D	None	---	---	>6.0	---	---	---	---
Golsum	C	None	---	---	>6.0	---	---	---	---
Golsum	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
1070:									
Loray	A	None	---	---	>6.0	---	---	---	---
Luap	C	None	---	---	>6.0	---	---	---	---
Toano	B	Occasional	---	Feb-May	>6.0	---	---	---	---
1071:									
Loray	A	None	---	---	>6.0	---	---	---	---
Luap	C	None	---	---	>6.0	---	---	---	---
1072:									
Loray	A	None	---	---	>6.0	---	---	---	---
Loray	A	None	---	---	>6.0	---	---	---	---
Hardhat	B	None	---	---	>6.0	---	---	---	---
1120:									
Ashart	D	None	---	---	>6.0	---	---	---	---
Zark	C	None	---	---	>6.0	---	---	---	---
1140:									
Elocin	D	Occasional	Brief	Mar-Jun	>6.0	---	---	---	---
Stampede	D	None	---	---	>6.0	---	---	---	---
Donna	D	None	---	---	>6.0	---	---	---	---
1141:									
Elocin	D	Occasional	Brief	Mar-Jun	>6.0	---	---	---	---
Donna	D	None	---	---	>6.0	---	---	---	---
1190:									
Tweener	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
1191:									
Tweener	D	None	---	---	>6.0	---	---	---	---
Tweener	D	None	---	---	>6.0	---	---	---	---
Graley	D	None	---	---	>6.0	---	---	---	---
1200:									
Xerxes	D	None	---	---	>6.0	---	---	---	---
Bluehill	C	None	---	---	>6.0	---	---	---	---
1201:									
Xerxes	D	None	---	---	>6.0	---	---	---	---
Zark	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
1201 (con.):									
Ashart	D	None	---	---	>6.0	---	---	---	---
1203:									
Xerxes	D	None	---	---	>6.0	---	---	---	---
Xerxes	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
1204:									
Xerxes	D	None	---	---	>6.0	---	---	---	---
Shalper	D	None	---	---	>6.0	---	---	---	---
Bluehill	C	None	---	---	>6.0	---	---	---	---
1400:									
Nevador	B	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
2000:									
Shuttle	B	None	---	---	>6.0	---	---	---	---
Shafter	D	None	---	---	>6.0	---	---	---	---
Loray	A	None	---	---	>6.0	---	---	---	---
2001:									
Shuttle	B	None	---	---	>6.0	---	---	---	---
Hardhat	B	None	---	---	>6.0	---	---	---	---
Shuttle	B	None	---	---	>6.0	---	---	---	---
2010:									
Wiffo Variant	B	Rare	---	---	>6.0	---	---	---	---
2030:									
Cavehill	C	None	---	---	>6.0	---	---	---	---
Nirac	C	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
2040:									
Sodhouse	D	None	---	---	>6.0	---	---	---	---
Loray	A	None	---	---	>6.0	---	---	---	---
2042:									
Sodhouse	D	None	---	---	>6.0	---	---	---	---
Pibler	D	None	---	---	>6.0	---	---	---	---
2050:									
Hopeka	D	None	---	---	>6.0	---	---	---	---
Tecomar	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
2051:									
Hopeka	D	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
2053:									
Hopeka	D	None	---	---	>6.0	---	---	---	---
Tecomar	D	None	---	---	>6.0	---	---	---	---
Nirac	C	None	---	---	>6.0	---	---	---	---
2054:									
Hopeka	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
2060:									
Appian	B	None	---	---	>6.0	---	---	---	---
Kawich	A	None	---	---	>6.0	---	---	---	---
Kawich	A	None	---	---	>6.0	---	---	---	---
2070:									
Kawich	A	None	---	---	>6.0	---	---	---	---
Kawich	A	None	---	---	>6.0	---	---	---	---
Ixian	C	Rare	---	---	3.5-5.0	Apparent	Nov-Mar	---	---
2080:									
Toano	B	None	---	---	>6.0	---	---	---	---
Toano	B	Occasional	---	Feb-May	>6.0	---	---	---	---
2081:									
Toano	B	Rare	---	---	>6.0	---	---	---	---
Tulase	B	Occasional	Brief	Feb-Apr	>6.0	---	---	---	---
2090:									
Toano	B	Occasional	---	Feb-May	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
Sondoa	B	None	---	---	>6.0	---	---	---	---
3001:									
Ixian	C	None	---	---	3.5-5.0	Apparent	Nov-Mar	---	---
Valmy	B	None	---	---	>6.0	---	---	---	---
3008:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
3008 (con.):									
Kram	D	None	---	---	>6.0	---	---	---	---
3009:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Shalcleav	D	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
3010:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Hopeka	D	None	---	---	>6.0	---	---	---	---
Gollaher	D	None	---	---	>6.0	---	---	---	---
3012:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Kram	D	None	---	---	>6.0	---	---	---	---
Amtoft	D	None	---	---	>6.0	---	---	---	---
3013:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Hopeka	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
3014:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
Hopeka	D	None	---	---	>6.0	---	---	---	---
3015:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
3016:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
3017:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Amtoft	D	None	---	---	>6.0	---	---	---	---
Shivlum	B	None	---	---	>6.0	---	---	---	---
3018:									
Tecomar	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
3018 (con.):									
Nirac	C	None	---	---	>6.0	---	---	---	---
Kram	D	None	---	---	>6.0	---	---	---	---
3019:									
Tecomar	D	None	---	---	>6.0	---	---	---	---
Hopeka	D	None	---	---	>6.0	---	---	---	---
Ekim	C	None	---	---	>6.0	---	---	---	---
3020:									
Amtoft	D	None	---	---	>6.0	---	---	---	---
Tecomar	D	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
3021:									
Amtoft	D	None	---	---	>6.0	---	---	---	---
Tecomar	D	None	---	---	>6.0	---	---	---	---
Rock Outcrop.									
3023:									
Amtoft	D	None	---	---	>6.0	---	---	---	---
Jericho	D	None	---	---	>6.0	---	---	---	---
Tecomar	D	None	---	---	>6.0	---	---	---	---
3025:									
Amtoft	D	None	---	---	>6.0	---	---	---	---
Arcia	C	None	---	---	>6.0	---	---	---	---
Kram	D	None	---	---	>6.0	---	---	---	---
3030:									
Cobre	C	None	---	---	>6.0	---	---	---	---
Izar	D	None	---	---	>6.0	---	---	---	---
Jackpot	C	None	---	---	>6.0	---	---	---	---
3031:									
Cobre	C	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
Jackpot	C	None	---	---	>6.0	---	---	---	---
3032:									
Cobre	C	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
Anowell	D	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
3033:									
Cobre	C	None	---	---	>6.0	---	---	---	---
Hundraw	D	None	---	---	>6.0	---	---	---	---
Zapa	C	None	---	---	>6.0	---	---	---	---
3036:									
Cobre	C	None	---	---	>6.0	---	---	---	---
Enko	C	None	---	---	>6.0	---	---	---	---
3040:									
Player	D	None	---	---	>6.0	---	---	---	---
McIvey	C	None	---	---	>6.0	---	---	---	---
Hogmalat	D	None	---	---	>6.0	---	---	---	---
3070:									
Arva	D	None	---	---	>6.0	---	---	---	---
Chen	D	None	---	---	>6.0	---	---	---	---
Sumine	C	None	---	---	>6.0	---	---	---	---
3080:									
Fenelon	C	None	---	---	>6.0	---	---	---	---
Lerrow Variant	D	None	---	---	>6.0	---	---	---	---
Cotant	D	None	---	---	>6.0	---	---	---	---
3081:									
Fenelon	C	None	---	---	>6.0	---	---	---	---
Gochea	B	None	---	---	>6.0	---	---	---	---
3100:									
Kleckner	C	None	---	---	>6.0	---	---	---	---
Stampede	D	None	---	---	>6.0	---	---	---	---
4000:									
Wicup	C	None	---	---	>6.0	---	---	---	---
Anowell	D	None	---	---	>6.0	---	---	---	---
Kzin	D	None	---	---	>6.0	---	---	---	---
4001:									
Wicup	C	None	---	---	>6.0	---	---	---	---
Fenelon	C	None	---	---	>6.0	---	---	---	---
Akler	D	None	---	---	>6.0	---	---	---	---
4002:									
Wicup	C	None	---	---	>6.0	---	---	---	---

TABLE 12.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table and ponding				
		Frequency	Duration	Months	Water table depth	Kind of water table	Months	Ponding duration	Maximum ponding depth
					Ft				Ft
4002 (con.):									
Gochea	B	None	---	---	>6.0	---	---	---	---
Gumble	D	None	---	---	>6.0	---	---	---	---
4020:									
Akler	D	None	---	---	>6.0	---	---	---	---
Cleavage	D	None	---	---	>6.0	---	---	---	---
Elocin	D	Occasional	Brief	Mar-Jun	>6.0	---	---	---	---
4040:									
Kram	D	None	---	---	>6.0	---	---	---	---
Amtoft	D	None	---	---	>6.0	---	---	---	---
Nirac	C	None	---	---	>6.0	---	---	---	---
4041:									
Kram	D	None	---	---	>6.0	---	---	---	---
Tecomar	D	None	---	---	>6.0	---	---	---	---
4042:									
Kram	D	None	---	---	>6.0	---	---	---	---
Hooplite	D	None	---	---	>6.0	---	---	---	---
Yuko	D	None	---	---	>6.0	---	---	---	---

TABLE 13.--SOIL FEATURES

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
10:									
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
Akler	14-20	Soft	---	---	---	---	Low	Moderate	Low
20:									
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
Igdell	>60	---	20-40	Thick	---	---	Low	High	Low
Vanwyper	20-40	Hard	---	---	---	---	Low	Moderate	Low
21:									
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
Stampede	>60	---	20-37	Thick	---	---	Moderate	Moderate	Low
22:									
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
Igdell	>60	---	20-40	Thick	---	---	Low	High	Low
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
23:									
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
Kleckner	>60	---	---	---	---	---	Low	Moderate	Low
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
31:									
Welch	>60	---	---	---	---	---	High	Moderate	Low
Crooked Creek	>60	---	---	---	---	---	High	Moderate	Low
32:									
Welch	>60	---	---	---	---	---	High	Moderate	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
34:									
Welch	>60	---	---	---	---	---	High	Moderate	Low
Crooked Creek	>60	---	---	---	---	---	High	High	Low
35:									
Welch	>60	---	---	---	---	---	High	Moderate	Low
Welch	>60	---	---	---	---	---	High	Moderate	Low
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
40:									
McIvey	>60	---	---	---	---	---	Moderate	Moderate	Low
Quarz	20-40	Hard	---	---	---	---	Low	Moderate	Low
60:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
60 (con.):									
Arva	40-60	Soft	---	---	---	---	Moderate	Moderate	Low
Lerrow	20-40	Soft	---	---	---	---	Low	Moderate	Low
70:									
Stampede	>60	---	20-37	Thick	---	---	Moderate	Moderate	Low
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
72:									
Stampede	>60	---	20-37	Thick	---	---	Moderate	Moderate	Low
Simon	>60	---	---	---	---	---	Moderate	Moderate	Low
Arva	40-60	Soft	---	---	---	---	Moderate	Moderate	Low
80:									
Wieland	>60	---	---	---	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
81:									
Wieland	>60	---	---	---	---	---	Moderate	High	Low
Gance	>60	---	---	---	---	---	Low	High	Low
Nevador	>60	---	---	---	---	---	Moderate	High	Low
82:									
Wieland	>60	---	---	---	---	---	Moderate	High	Low
Hunnton	>60	---	20-40	Thick	---	---	Moderate	High	Low
Hunewill	>60	---	---	---	---	---	Moderate	Moderate	Low
83:									
Wieland	>60	---	---	---	---	---	Moderate	High	Low
Nevador	>60	---	---	---	---	---	Moderate	High	Low
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
90:									
Hunnton	>60	---	20-40	Thick	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Bilbo	>60	---	---	---	---	---	Low	High	Low
93:									
Hunnton	>60	---	20-40	Thick	---	---	Moderate	High	Low
Wieland	>60	---	---	---	---	---	Moderate	High	Low
94:									
Hunnton	>60	---	20-40	Thick	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
94 (con.):									
Wieland	>60	---	---	---	---	---	Moderate	High	Low
120:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
121:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
123:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Oupico	>60	---	20-40	Thick	---	---	Moderate	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
124:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Gance	>60	---	---	---	---	---	Low	High	Low
125:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
126:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
127:									
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
129:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
130:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Wieland	>60	---	---	---	---	---	Moderate	High	Low
Bilbo	>60	---	---	---	---	---	Low	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
131:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Hunnton	>60	---	20-40	Thick	---	---	Moderate	High	Low
Gance	>60	---	---	---	---	---	Low	High	Low
132:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Bilbo	>60	---	---	---	---	---	Low	High	Low
133:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Hunnton	>60	---	20-40	Thick	---	---	Moderate	High	Low
135:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
136:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Nevador	>60	---	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
137:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
138:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Jackpot	10-20	Soft	---	---	---	---	Moderate	Moderate	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
139:									
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
140:									
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Wieland	>60	---	---	---	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
141:									
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
141 (con.):									
Kelk	>60	---	---	---	---	---	Moderate	High	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
144:									
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
150:									
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Tusel	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
151:									
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Soughe	10-20	Hard	---	---	---	---	Moderate	High	Low
154:									
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Contact	>60	---	---	---	---	---	Low	High	Low
Rock Outcrop.									
155:									
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Rock Outcrop.									
Pequop	>60	---	---	---	---	---	Moderate	Moderate	Low
156:									
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
160:									
Dacker	>60	---	20-35	Thick	---	---	Moderate	High	Low
Nevador	>60	---	---	---	---	---	Moderate	High	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
161:									
Dacker	>60	---	20-35	Thick	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
Wieland	>60	---	---	---	---	---	Moderate	High	Low
163:									
Dacker	>60	---	20-35	Thick	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
163 (con.):									
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
170:									
Enko	>60	---	---	---	---	---	Moderate	High	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
171:									
Enko	>60	---	---	---	---	---	Moderate	High	Low
Chiara	>60	---	10-20	Thick	---	---	Moderate	High	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
174:									
Enko	>60	---	---	---	---	---	Moderate	High	Low
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
175:									
Wiffo	>60	---	---	---	---	---	Moderate	High	Low
Nevador	>60	---	---	---	---	---	Moderate	High	Low
180:									
Sonoma	>60	---	---	---	---	---	High	High	Low
Devilsgait	>60	---	---	---	---	---	High	High	Low
Sonoma	>60	---	---	---	---	---	High	High	High
182:									
Sonoma	>60	---	---	---	---	---	High	High	Low
Devilsgait	>60	---	---	---	---	---	High	High	Low
Sonoma	>60	---	---	---	---	---	High	High	Low
183:									
Sonoma	>60	---	---	---	---	---	High	High	Low
Sonoma	>60	---	---	---	---	---	High	High	Low
185:									
Sonoma	>60	---	---	---	---	---	High	High	Low
Ocala Variant	>60	---	---	---	---	---	Moderate	High	High
186:									
Sondoa	>60	---	---	---	---	---	Low	High	Moderate
Ixian	>60	---	---	---	---	---	High	High	High
Ixian	>60	---	---	---	---	---	High	High	High

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
187:									
Sonoma	>60	---	---	---	---	---	High	High	Low
Deleplain	>60	---	---	---	---	---	High	High	Low
Ocala	>60	---	---	---	---	---	High	High	High
190:									
Forvic	24-40	Soft	20-40	Thin	---	---	Moderate	Moderate	Low
Igdell	>60	---	20-40	Thick	---	---	Low	High	Low
191:									
Forvic	24-40	Soft	20-40	Thin	---	---	Moderate	Moderate	Low
Chayson	>60	---	20-40	Thick	---	---	Moderate	High	Low
Igdell	>60	---	20-40	Thick	---	---	Low	High	Low
195:									
Chayson	>60	---	20-40	Thick	---	---	Moderate	High	Low
Igdell	>60	---	20-40	Thick	---	---	Low	High	Low
211:									
Crooked Creek	>60	---	---	---	---	---	High	High	Low
Crooked Creek	>60	---	---	---	---	---	High	High	Low
Welch	>60	---	---	---	---	---	High	Moderate	Low
219:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
220:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
221:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
222:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
223:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
224:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Graley----------	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Arcia-----------	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
225:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Rodie-----------	>60	---	---	---	---	---	Moderate	High	Low
Lerrow----------	20-40	Soft	---	---	---	---	Low	Moderate	Low
226:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Quopant---------	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Rodie-----------	>60	---	---	---	---	---	Moderate	High	Low
227:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Rodie-----------	>60	---	---	---	---	---	Moderate	High	Low
228:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Rodie-----------	>60	---	---	---	---	---	Moderate	High	Low
Shalper---------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
229:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Shalper---------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage--------	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
232:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Quarz-----------	20-40	Hard	---	---	---	---	Low	Moderate	Low
235:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Shalper---------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
236:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
McIvey----------	>60	---	---	---	---	---	Moderate	Moderate	Low
237:									
Shalcleav-------	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Gollaher--------	4-10	Hard	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
237 (con.):									
Keman	>60	---	---	---	---	---	Moderate	Moderate	Moderate
238:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
239:									
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low
Rock Outcrop.									
240:									
Gumble	14-20	Soft	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
250:									
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
Soughe	10-20	Hard	---	---	---	---	Moderate	High	Low
251:									
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
252:									
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
Jackpot	10-20	Soft	---	---	---	---	Moderate	Moderate	Low
Soughe	10-20	Hard	---	---	---	---	Moderate	High	Low
253:									
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
Jackpot	10-20	Soft	---	---	---	---	Moderate	Moderate	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
260:									
Bancy	13-26	Hard	12-20	Thick	---	---	Low	High	Low
Heckison	22-40	Hard	21-36	Thick	---	---	Low	High	Low
270:									
Cameek	>60	---	14-20	Thick	---	---	Low	High	High
Bilbo	>60	---	---	---	---	---	Low	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
270 (con.):									
Cameek	>60	---	14-20	Thick	---	---	Low	High	High
280:									
Quarz	20-40	Hard	---	---	---	---	Low	Moderate	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
281:									
Quarz	20-40	Hard	---	---	---	---	Low	Moderate	Low
Cotant	12-20	Soft	---	---	---	---	Low	Moderate	Low
282:									
Quarz	20-40	Hard	---	---	---	---	Low	Moderate	Low
Quarz	20-40	Hard	---	---	---	---	Low	Moderate	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
290:									
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
Vadaho	>60	---	14-20	Thick	---	---	Moderate	High	Low
291:									
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
Simon	>60	---	---	---	---	---	Moderate	Moderate	Low
300:									
Ola	24-40	Hard	---	---	---	---	Moderate	Moderate	Low
Earcree	>60	---	---	---	---	---	Moderate	Moderate	Moderate
Ola	24-40	Hard	---	---	---	---	Moderate	Moderate	Low
310:									
Agort	4-14	Soft	---	---	---	---	Moderate	Moderate	Low
Xica	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Xica	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
320:									
Hussell	>60	---	---	---	---	---	Moderate	High	Low
Nevador	>60	---	---	---	---	---	Moderate	High	Low
340:									
Xipe	>60	---	---	---	---	---	High	Moderate	Low
Valmy	>60	---	---	---	---	---	Low	High	Low
Ocala	>60	---	---	---	---	---	High	High	High
341:									
Xipe	>60	---	---	---	---	---	High	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
341 (con.):									
Batan	>60	---	---	---	---	---	Low	High	Moderate
Devilsgait	>60	---	---	---	---	---	High	High	Low
380:									
Elhina	>60	---	20-40	Thin	---	---	Moderate	High	Low
400:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Chuska	40-60	Hard	12-20	Thick	---	---	Low	High	Low
401:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
403:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
404:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Oupico	>60	---	20-40	Thick	---	---	Moderate	High	Low
405:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
406:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
407:									
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
410:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
McIvey	>60	---	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
411:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
McIvey	>60	---	---	---	---	---	Moderate	Moderate	Low
412:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Lerrow	20-40	Soft	---	---	---	---	Low	Moderate	Low
414:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Forvic	24-40	Soft	20-40	Thin	---	---	Moderate	Moderate	Low
Scalfar	>60	---	---	---	---	---	Moderate	High	Low
415:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Pequop	>60	---	---	---	---	---	Moderate	Moderate	Low
417:									
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Fez	20-40	Soft	---	---	---	---	High	Moderate	Low
Quopant	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
418:									
Rodie	>60	---	---	---	---	---	Moderate	High	Low
Rubble Land	>40	Hard	---	---	---	---	None	---	---
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
419:									
Rodie	>60	---	---	---	---	---	Moderate	High	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Pequop	>60	---	---	---	---	---	Moderate	Moderate	Low
420:									
Rodie	>60	---	---	---	---	---	Moderate	High	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Agassiz	10-20	Hard	---	---	---	---	Moderate	Moderate	Low
421:									
Rodie	>60	---	---	---	---	---	Moderate	High	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
421 (con.):									
Keman	>60	---	---	---	---	---	Moderate	Moderate	Moderate
422:									
Rodie	>60	---	---	---	---	---	Moderate	High	Low
Quarz	20-40	Hard	---	---	---	---	Low	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
423:									
Quopant	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
Lerrow	20-40	Soft	---	---	---	---	Low	Moderate	Low
430:									
Ocala	>60	---	---	---	---	---	High	High	High
Kelk	>60	---	---	---	---	---	Moderate	High	Low
431:									
Ocala	>60	---	---	---	---	---	High	High	High
Batan	>60	---	---	---	---	---	Low	High	Moderate
Devilsgait	>60	---	---	---	---	---	High	High	Low
432:									
Ocala	>60	---	---	---	---	---	High	High	High
Ixian	>60	---	---	---	---	---	High	High	High
462:									
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
470:									
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Rock Outcrop.									
472:									
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
473:									
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
474:									
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Vitale	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
480:									
Devilsgait	>60	---	---	---	---	---	High	High	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
481:									
Devilsgait	>60	---	---	---	---	---	High	High	Low
Batan	>60	---	---	---	---	---	Low	High	Moderate
Devilsgait	>60	---	---	---	---	---	High	High	Low
482:									
Devilsgait	>60	---	---	---	---	---	High	High	Low
483:									
Devilsgait	>60	---	---	---	---	---	High	High	Low
Valmy	>60	---	---	---	---	---	Low	High	Low
490:									
Loncan	21-38	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
520:									
Halleck	>60	---	---	---	---	---	High	High	Low
521:									
Halleck	>60	---	---	---	---	---	High	High	Low
Halleck	>60	---	---	---	---	---	High	High	Low
530:									
Ekim	20-40	Hard	---	---	---	---	Moderate	High	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Loncan	21-38	Hard	---	---	---	---	Moderate	Moderate	Low
540:									
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
541:									
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Bullump	40-60	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
542:									
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Hackwood	>60	---	---	---	---	---	Moderate	Moderate	Low
543:									
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Pernty	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Tusel	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
550:									
Bullump	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
560:									
Amene	14-20	Hard	---	---	---	---	Moderate	High	Low
Belsac	25-40	Soft	---	---	---	---	Moderate	High	Low
Onkeyo	14-20	Hard	---	---	---	---	Moderate	High	Low
561:									
Amene	14-20	Hard	---	---	---	---	Moderate	High	Low
Ekim	20-40	Hard	---	---	---	---	Moderate	High	Low
Agassiz	10-20	Hard	---	---	---	---	Moderate	Moderate	Low
570:									
Tusel	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
Belsac Variant	>60	---	---	---	---	---	Moderate	Moderate	Low
580:									
Kelk	>60	---	---	---	---	---	Moderate	High	Low
Sonoma	>60	---	---	---	---	---	High	High	Low
582:									
Kelk	>60	---	---	---	---	---	Moderate	High	Low
Devilsgait	>60	---	---	---	---	---	High	High	Low
Welch	>60	---	---	---	---	---	High	Moderate	Low
585:									
Valmy	>60	---	---	---	---	---	Low	High	Low
Luap	>60	---	20-40	Thin	---	---	Low	High	Low
590:									
Valmy	>60	---	---	---	---	---	Low	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
610:									
Grina	14-20	Soft	---	---	---	---	Moderate	High	Low
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
620:									
Vadaho	>60	---	14-20	Thick	---	---	Moderate	High	Low
Vadaho	>60	---	14-20	Thick	---	---	Moderate	High	Low
621:									
Vadaho	>60	---	14-20	Thick	---	---	Moderate	High	Low
Vadaho	>60	---	14-20	Thick	---	---	Moderate	High	Low
Stampede	>60	---	20-37	Thick	---	---	Moderate	Moderate	Low
631:									
Pernty	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
McIvey	>60	---	---	---	---	---	Moderate	Moderate	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
632:									
Pernty	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
633:									
Pernty	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low
Rock Outcrop.									
651:									
Scalfar	>60	---	---	---	---	---	Moderate	High	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Hackwood	>60	---	---	---	---	---	Moderate	Moderate	Low
652:									
Scalfar	>60	---	---	---	---	---	Moderate	High	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Quopant	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
655:									
Scalfar	>60	---	---	---	---	---	Moderate	High	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
656:									
Scalfar	>60	---	---	---	---	---	Moderate	High	Low
Fenelon	20-40	Soft	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
656 (con.):									
Booford	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
660:									
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
661:									
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
662:									
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
664:									
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
665:									
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
666:									
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Kleckner	>60	---	---	---	---	---	Low	Moderate	Low
670:									
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
Kleckner	>60	---	---	---	---	---	Low	Moderate	Low
Anowell	5-12	Soft	---	---	---	---	Moderate	High	Low
672:									
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
Cameek	>60	---	14-20	Thick	---	---	Low	High	High
673:									
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
673 (con.):									
Gance	>60	---	---	---	---	---	Low	High	Low
674:									
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
678:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
679:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
680:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Holborn	6-10	Soft	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
681:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Loomis	8-14	Hard	---	---	---	---	Low	Moderate	Low
Vanwyper	20-40	Hard	---	---	---	---	Low	Moderate	Low
682:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
683:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Holborn	6-10	Soft	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
684:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Rock Outcrop.									
685:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
686:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Vanwyper	20-40	Hard	---	---	---	---	Low	Moderate	Low
687:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Wiffo	>60	---	---	---	---	---	Moderate	High	Low
688:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
689:									
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
690:									
Oupico	>60	---	20-40	Thick	---	---	Moderate	High	Low
Oupico	>60	---	20-40	Thick	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
691:									
Oupico	>60	---	20-40	Thick	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
700:									
Xica	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
701:									
Xica	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Xica	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Agort	4-14	Soft	---	---	---	---	Moderate	Moderate	Low
730:									
Geysen	>60	---	---	---	---	---	Moderate	High	High
Welch	>60	---	---	---	---	---	High	Moderate	Low
Batan	>60	---	---	---	---	---	Low	High	Moderate
731:									
Geysen	>60	---	---	---	---	---	Moderate	High	High
Crooked Creek	>60	---	---	---	---	---	High	High	Low
Batan	>60	---	---	---	---	---	Low	High	Moderate

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
742:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Vitale	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
743:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
744:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
745:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
746:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Hackwood	>60	---	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
747:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Keman	>60	---	---	---	---	---	Moderate	Moderate	Moderate
Hogmalat	9-20	Hard	---	---	---	---	Moderate	Moderate	Moderate
748:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Quopant	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
749:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Snotown	20-40	Hard	---	---	---	---	Moderate	High	High
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
750:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Bullump	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
Hackwood	>60	---	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
751:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
752:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
Lerrow	20-40	Soft	---	---	---	---	Low	Moderate	Low
753:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Rock Outcrop.									
754:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
755:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
756:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Pernty	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
757:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Snotown	20-40	Hard	---	---	---	---	Moderate	High	High
758:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
759:									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
759 (con.):									
Scalfar	>60	---	---	---	---	---	Moderate	High	Low
760:									
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
761:									
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Gance	>60	---	---	---	---	---	Low	High	Low
762:									
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Gance	>60	---	---	---	---	---	Low	High	Low
763:									
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Pamison	>60	---	---	---	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
764:									
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
765:									
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Pequop	>60	---	---	---	---	---	Moderate	Moderate	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
780:									
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low
781:									
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
790:									
Loomis	8-14	Hard	---	---	---	---	Low	Moderate	Low
Ackett	>60	---	10-20	Thick	---	---	Low	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
796:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
797:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Amene	14-20	Hard	---	---	---	---	Moderate	High	Low
798:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Amene	14-20	Hard	---	---	---	---	Moderate	High	Low
Hackwood	>60	---	---	---	---	---	Moderate	Moderate	Low
799:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
Vitale	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
801:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Amene	14-20	Hard	---	---	---	---	Moderate	High	Low
Onkeyo	14-20	Hard	---	---	---	---	Moderate	High	Low
802:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Hackwood	>60	---	---	---	---	---	Moderate	Moderate	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
804:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Onkeyo	14-20	Hard	---	---	---	---	Moderate	High	Low
Nirac	20-40	Hard	---	---	---	---	Moderate	High	Low
805:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Ekim	20-40	Hard	---	---	---	---	Moderate	High	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
806:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Vitale	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
807:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Belsac	25-40	Soft	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
808:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Hapgood	40-60	Hard	---	---	---	---	Moderate	Moderate	Low
809:									
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
Xica	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
810:									
Igdell	>60	---	20-40	Thick	---	---	Low	High	Low
Kleckner	>60	---	---	---	---	---	Low	Moderate	Low
820:									
Cotant	12-20	Soft	---	---	---	---	Low	Moderate	Low
Eboda	23-40	Soft	---	---	---	---	Moderate	Moderate	Low
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
822:									
Cotant	12-20	Soft	---	---	---	---	Low	Moderate	Low
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
830:									
Onkeyo	14-20	Hard	---	---	---	---	Moderate	High	Low
Pequop	>60	---	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
850:									
Pamison	>60	---	---	---	---	---	Moderate	High	Low
Affey	>60	---	---	---	---	---	Low	High	Low
Pamison	>60	---	---	---	---	---	Moderate	High	Low
851:									
Pamison	>60	---	---	---	---	---	Moderate	High	Low
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Coser	20-40	Soft	---	---	---	---	Moderate	Moderate	Low
880:									
Heckison	22-40	Hard	21-36	Thick	---	---	Low	High	Low
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
881:									
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
Chayson	>60	---	20-40	Thick	---	---	Moderate	High	Low
Pamison	>60	---	---	---	---	---	Moderate	High	Low
930:									
Orovada	>60	---	---	---	---	---	Moderate	High	Moderate
Kelk	>60	---	---	---	---	---	Moderate	High	Low
Orovada	>60	---	---	---	---	---	Moderate	High	Moderate
931:									
Orovada	>60	---	---	---	---	---	Moderate	High	Moderate
Oupico	>60	---	20-40	Thick	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
932:									
Orovada	>60	---	---	---	---	---	Moderate	High	Moderate
Xipe	>60	---	---	---	---	---	High	Moderate	Low
Ocala	>60	---	---	---	---	---	High	High	High
940:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Anowell	5-12	Soft	---	---	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
941:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
942:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Anowell	5-12	Soft	---	---	---	---	Moderate	High	Low
943:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
944:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Peeko	>60	---	10-20	Thick	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
945:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
946:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
947:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Kelk	>60	---	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
948:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Puett	10-20	Soft	---	---	---	---	Moderate	High	Low
Trinidad	6-14	Soft	---	---	---	---	Low	High	Low
949:									
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Quopant	14-20	Soft	---	---	---	---	Moderate	Moderate	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
961:									
Trinidad	6-14	Soft	---	---	---	---	Low	High	Low
Trinidad	6-14	Soft	---	---	---	---	Low	High	Low
Izod	7-14	Hard	---	---	---	---	Moderate	High	Low
970:									
Hunewill	>60	---	---	---	---	---	Moderate	Moderate	Low
Bilbo	>60	---	---	---	---	---	Low	High	Low
Devilsgait	>60	---	---	---	---	---	High	High	Low
980:									
Boso	>60	---	10-20	Thick	---	---	Moderate	High	Low
Dewar	>60	---	14-20	Thick	---	---	Moderate	High	Low
990:									
Bluehill	20-40	Soft	---	---	---	---	Low	High	Low
Tomsherry	>60	---	20-40	Thin	---	---	High	High	Low
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
1010:									
Agassiz	10-20	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
1010 (con.):									
Croesus	20-40	Hard	---	---	---	---	Moderate	High	Low
Rubble Land	>40	Hard	---	---	---	---	None	---	---
1040:									
Gravier	>60	---	---	---	---	---	Low	High	Low
Shafter	>60	---	10-20	Thick	---	---	Moderate	High	Low
Toano	>60	---	---	---	---	---	Low	High	Moderate
1041:									
Gravier	>60	---	---	---	---	---	Low	High	Low
Wiffo	>60	---	---	---	---	---	Moderate	High	Low
1042:									
Gravier	>60	---	---	---	---	---	Low	High	Low
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
1043:									
Gravier	>60	---	---	---	---	---	Low	High	Low
Luap	>60	---	20-40	Thin	---	---	Low	High	Low
1050:									
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
1051:									
Pibler	40-60	Hard	7-20	Thick	---	---	Moderate	High	Moderate
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
1052:									
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
Gravier	>60	---	---	---	---	---	Low	High	Low
1054:									
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
Wiffo	>60	---	---	---	---	---	Moderate	High	Low
1055:									
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
Gravier	>60	---	---	---	---	---	Low	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
1056:									
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
Valmy	>60	---	---	---	---	---	Low	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
1060:									
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
Holborn	6-10	Soft	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
1062:									
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Jackpot	10-20	Soft	---	---	---	---	Moderate	Moderate	Low
1064:									
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
Golsum	20-40	Soft	---	---	---	---	Low	High	High
Golsum	20-40	Soft	---	---	---	---	Low	High	High
1070:									
Loray	>60	---	---	---	---	---	Low	High	Low
Luap	>60	---	20-40	Thin	---	---	Low	High	Low
Toano	>60	---	---	---	---	---	Low	High	Moderate
1071:									
Loray	>60	---	---	---	---	---	Low	High	Low
Luap	>60	---	20-40	Thin	---	---	Low	High	Low
1072:									
Loray	>60	---	---	---	---	---	Low	High	Low
Loray	>60	---	---	---	---	---	Low	High	Low
Hardhat	>60	---	---	---	---	---	Low	High	High
1120:									
Ashart	12-20	Soft	---	---	---	---	Moderate	Moderate	Low
Zark	20-40	Soft	---	---	---	---	Moderate	High	Low
1140:									
Elocin	>60	---	---	---	---	---	Moderate	High	Moderate
Stampede	>60	---	20-37	Thick	---	---	Moderate	Moderate	Low
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
1141:									
Elocin	>60	---	---	---	---	---	Moderate	High	Moderate
Donna	>60	---	20-36	Thick	---	---	Moderate	High	Low
1190:									
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
1190 (con.):									
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
1191:									
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low
Tweener	7-14	Hard	---	---	---	---	Moderate	Moderate	Low
Graley	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
1200:									
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
Bluehill	20-40	Soft	---	---	---	---	Low	High	Low
1201:									
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
Zark	20-40	Soft	---	---	---	---	Moderate	High	Low
Ashart	12-20	Soft	---	---	---	---	Moderate	Moderate	Low
1203:									
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
1204:									
Xerxes	8-14	Soft	---	---	---	---	Moderate	High	Low
Shalper	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Bluehill	20-40	Soft	---	---	---	---	Low	High	Low
1400:									
Nevador	>60	---	---	---	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
2000:									
Shuttle	>60	---	40-60	Thick	---	---	Low	High	High
Shafter	>60	---	10-20	Thick	---	---	Moderate	High	Low
Loray	>60	---	---	---	---	---	Low	High	Low
2001:									
Shuttle	>60	---	40-60	Thick	---	---	Low	High	High
Hardhat	>60	---	---	---	---	---	Low	High	High
Shuttle	>60	---	---	---	---	---	Low	High	High
2010:									
Wiffo Variant	>60	---	---	---	---	---	Moderate	High	Low
2030:									
Cavehill	20-40	Hard	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
2030 (con.):									
Nirac	20-40	Hard	---	---	---	---	Moderate	High	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
2040:									
Sodhouse	>60	---	14-20	Thick	---	---	Low	High	Low
Loray	>60	---	---	---	---	---	Low	High	Low
2042:									
Sodhouse	>60	---	14-20	Thick	---	---	Low	High	Low
Pibler	>60	---	7-20	Thick	---	---	Moderate	High	Moderate
2050:									
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
2051:									
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
Rock Outcrop.									
2053:									
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Nirac	20-40	Hard	---	---	---	---	Moderate	High	Low
2054:									
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Rock Outcrop.									
2060:									
Appian	>60	---	---	---	---	---	Low	High	Low
Kawich	>60	---	---	---	---	---	Low	High	High
Kawich	>60	---	---	---	---	---	Low	High	High
2070:									
Kawich	>60	---	---	---	---	---	Low	High	High
Kawich	>60	---	---	---	---	---	Low	High	High
Ixian	>60	---	---	---	---	---	High	High	High
2080:									
Toano	>60	---	---	---	---	---	Low	High	Moderate
Toano	>60	---	---	---	---	---	Low	High	Moderate
2081:									
Toano	>60	---	---	---	---	---	Low	High	Moderate

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
2081 (con.):									
Tulase	>60	---	---	---	---	---	Moderate	High	Low
2090:									
Toano	>60	---	---	---	---	---	Low	High	Moderate
Enko	>60	---	---	---	---	---	Moderate	High	Low
Sondoa	>60	---	---	---	---	---	Low	High	Moderate
3001:									
Ixian	>60	---	---	---	---	---	High	High	High
Valmy	>60	---	---	---	---	---	Low	High	Low
3008:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
3009:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Shalcleav	4-12	Hard	---	---	---	---	Moderate	Moderate	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
3010:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Gollaher	4-10	Hard	---	---	---	---	Moderate	High	Low
3012:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
3013:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Rock Outcrop.									
3014:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
3015:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
3016:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
3017:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Shivlum	>60	---	---	---	---	---	Moderate	Moderate	Low
3018:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Nirac	20-40	Hard	---	---	---	---	Moderate	High	Low
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
3019:									
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Hopeka	4-10	Hard	---	---	---	---	Moderate	High	Low
Ekim	20-40	Hard	---	---	---	---	Moderate	High	Low
3020:									
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
3021:									
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
Rock Outcrop.									
3023:									
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Jericho	>60	---	14-20	Thick	---	---	Moderate	High	Moderate
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
3025:									
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Arcia	30-40	Hard	---	---	---	---	Moderate	Moderate	Low
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
3030:									
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Izar	7-14	Hard	---	---	---	---	Moderate	High	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
3030 (con.):									
Jackpot	10-20	Soft	---	---	---	---	Moderate	Moderate	Low
3031:									
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Jackpot	10-20	Soft	---	---	---	---	Moderate	Moderate	Low
3032:									
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Anowell	5-12	Soft	---	---	---	---	Moderate	High	Low
3033:									
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Hundraw	4-10	Soft	---	---	---	---	Moderate	High	Low
Zapa	>60	---	20-30	Thick	---	---	Moderate	High	Low
3036:									
Cobre	20-40	Soft	---	---	---	---	Moderate	High	Low
Enko	>60	---	---	---	---	---	Moderate	High	Low
3040:									
Player	>60	---	---	---	---	---	Moderate	Moderate	Low
McIvey	>60	---	---	---	---	---	Moderate	Moderate	Low
Hogmalat	9-20	Hard	---	---	---	---	Moderate	Moderate	Moderate
3070:									
Arva	40-60	Soft	---	---	---	---	Moderate	Moderate	Low
Chen	12-20	Hard	---	---	---	---	Moderate	Moderate	Low
Sumine	20-40	Hard	---	---	---	---	Moderate	Moderate	Low
3080:									
Fenelon	20-40	Soft	---	---	---	---	Moderate	High	Low
Lerrow Variant	>60	---	---	---	---	---	Low	High	Low
Cotant	12-20	Soft	---	---	---	---	Low	Moderate	Low
3081:									
Fenelon	20-40	Soft	---	---	---	---	Moderate	High	Low
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
3100:									
Kleckner	>60	---	---	---	---	---	Low	Moderate	Low
Stampede	>60	---	20-37	Thick	---	---	Moderate	Moderate	Low

TABLE 13.--SOIL FEATURES --Continued

Map symbol and soil name	Bedrock		Cemented pan		Subsidence		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind	Initial	Total		Uncoated steel	Concrete
	In		In		In	In			
4000:									
Wicup	26-40	Soft	---	---	---	---	Moderate	High	Low
Anowell	5-12	Soft	---	---	---	---	Moderate	High	Low
Kzin	4-12	Soft	---	---	---	---	Moderate	High	Low
4001:									
Wicup	26-40	Soft	---	---	---	---	Moderate	High	Low
Fenelon	20-40	Soft	---	---	---	---	Moderate	High	Low
Akler	14-20	Soft	---	---	---	---	Low	Moderate	Low
4002:									
Wicup	26-40	Soft	---	---	---	---	Moderate	High	Low
Gochea	>60	---	---	---	---	---	Moderate	Moderate	Low
Gumble	14-20	Soft	---	---	---	---	Moderate	High	Low
4020:									
Akler	14-20	Soft	---	---	---	---	Low	Moderate	Low
Cleavage	14-20	Hard	---	---	---	---	Moderate	Moderate	Low
Elocin	>60	---	---	---	---	---	Moderate	High	Moderate
4040:									
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
Amtoft	10-20	Hard	---	---	---	---	Moderate	High	Moderate
Nirac	20-40	Hard	---	---	---	---	Moderate	High	Low
4041:									
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
Tecomar	10-20	Hard	---	---	---	---	Moderate	High	Low
4042:									
Kram	8-14	Hard	---	---	---	---	Moderate	High	Low
Hooplite	6-14	Hard	---	---	---	---	Moderate	High	Low
Yuko	6-14	Soft	---	---	---	---	Moderate	Moderate	Low

TABLE 14.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Ackett	Xerollic Durargids, clayey-skeletal, montmorillonitic, mesic, shallow
Affey	Durargidic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Agassiz	Lithic Haploxerolls, loamy-skeletal, mixed, frigid
Agort	Entic Haploxerolls, loamy, mixed, frigid, shallow
Akler	Xerollic Haplargids, clayey, montmorillonitic, frigid, shallow
Amene	Lithic Calcixerolls, loamy-skeletal, carbonatic, frigid
Amtoft	Lithic Xerollic Calciorthids, loamy-skeletal, carbonatic, mesic
Anowell	Xerollic Haplargids, loamy, mixed, mesic, shallow
Appian	Typic Natrargids, fine-loamy over sandy or sandy-skeletal, mixed, mesic
Arcia	Pachic Argixerolls, fine, montmorillonitic, frigid
Arva	Pachic Argixerolls, fine, montmorillonitic, frigid
Ashart	Mollic Haploxeralfs, loamy, mixed, mesic, shallow
Bancy	Typic Durixerolls, clayey, montmorillonitic, frigid, shallow
Batan	Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Belsac	Pachic Cryoborolls, loamy-skeletal, mixed
Belsac Variant	Entic Cryumbrepts, loamy-skeletal, mixed
Bilbo	Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Bluehill	Vitrandic Xerochrepts, ashy, mesic
Booford	Typic Argixerolls, fine, montmorillonitic, frigid
Boso	Aridic Petrocalcic Palexerolls, loamy-skeletal, mixed, frigid, shallow
Bullump	Pachic Argixerolls, loamy-skeletal, mixed, frigid
Cameek	Aridic Durixerolls, clayey, montmorillonitic, frigid, shallow
Cavehill	Typic Calcixerolls, loamy-skeletal, carbonatic, frigid
Chayson	Typic Durixerolls, fine-loamy, mixed, frigid
Chen	Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Chiara	Xerollic Durorthids, loamy, mixed, mesic, shallow
Chuska	Xerollic Durargids, loamy, mixed, mesic, shallow
Cleavage	Lithic Argixerolls, loamy-skeletal, mixed, frigid
Cobre	Vitrixcrandic Camborthids, ashy, mesic
Contact	Entic Haploxerolls, sandy, mixed, frigid
Coser	Typic Palexerolls, fine, montmorillonitic, frigid
Cotant	Aridic Argixerolls, clayey, montmorillonitic, frigid, shallow
Croesus	Pachic Cryoborolls, loamy-skeletal, mixed
Crooked Creek	Cumulic Haplaquolls, fine, montmorillonitic, frigid
Dacker	Xerollic Durargids, fine-loamy, mixed, mesic
Deleplain	Aeric Fluvaquents, fine-loamy over sandy or sandy-skeletal, mixed (calcareous), mesic
Devilsgait	Cumulic Haplaquolls, fine-silty, mixed (calcareous), mesic
Dewar	Xerollic Durargids, loamy, mixed, mesic, shallow
Donna	Abruptic Aridic Durixerolls, very-fine, montmorillonitic, frigid
Earcree	Pachic Cryoborolls, coarse-loamy, mixed
Eboda	Aridic Argixerolls, fine-loamy, mixed, frigid
Ekim	Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid
Elhina	Abruptic Xerollic Durargids, fine, montmorillonitic, frigid
Elocin	Aridic Palexerolls, clayey-skeletal, montmorillonitic, frigid
Enko	Durixerollic Camborthids, coarse-loamy, mixed, mesic
Fenelon	Aridic Calcic Argixerolls, fine-loamy, mixed, frigid
Fez	Vitrandic Haploxerolls, ashy, frigid
Forvic	Typic Durixerolls, fine, montmorillonitic, frigid
Gance	Durixerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Geysen	Durixerollic Natrargids, fine-loamy, mixed, mesic
Gochea	Durargidic Argixerolls, fine-loamy, mixed, frigid
Gollaher	Lithic Xerorthents, loamy-skeletal, carbonatic, frigid
Golsum	Aridic Calcic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Graley	Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Gravier	Typic Calciorthids, loamy-skeletal, mixed, mesic
Grina	Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Gumble	Xerollic Haplargids, clayey, montmorillonitic, mesic, shallow
Hackwood	Pachic Cryoborolls, fine-loamy, mixed

TABLE 14.--CLASSIFICATION OF THE SOILS--Continued

Soil name	Family or higher taxonomic class
Halleck	Cumulic Haplaquolls, fine-silty, mixed (calcareous), frigid
Hapgood	Pachic Cryoborolls, loamy-skeletal, mixed
Hardhat	Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic
Heckison	Aridic Durixerolls, fine-loamy, mixed, frigid
Hogmalat	Argic Lithic Cryoborolls, loamy-skeletal, mixed
Holborn	Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Hooplite	Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic
Hopeka	Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, frigid
Hundraw	Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Hunewill	Xerollic Haplargids, loamy-skeletal, mixed, mesic
Hunnton	Xerollic Durargids, fine, montmorillonitic, mesic
Hussell	Durixerollic Haplargids, coarse-loamy, mixed, mesic
Igdell	Abruptic Aridic Durixerolls, fine, montmorillonitic, frigid
Ixian	Aquic Torriorthents, fine-silty, mixed (calcareous), mesic
Izar	Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Izod	Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic
Jackpot	Xeric Torriorthents, nonacid, ashy, mesic, shallow
Jericho	Xerollic Durorthids, loamy-skeletal, mixed, mesic, shallow
Kawich	Typic Torripsamments, mixed, mesic
Kelk	Durixerollic Camborthids, fine-silty, mixed, mesic
Keman	Argic Pachic Cryoborolls, loamy-skeletal, mixed
Kleckner	Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Kram	Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic
Kzin	Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow
Lerrow	Aridic Argixerolls, fine, montmorillonitic, frigid
Lerrow Variant	Calcic Pachic Argixerolls, fine, montmorillonitic, frigid
Loncan	Aridic Haploxerolls, loamy-skeletal, mixed, frigid
Loomis	Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Loray	Typic Calciorthids, sandy-skeletal, mixed, mesic
Luap	Typic Paleorthids, loamy-skeletal, mixed, mesic
McIvey	Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Nevador	Durixerollic Haplargids, fine-loamy, mixed, mesic
Nirac	Aridic Calcixerolls, loamy-skeletal, mixed, frigid
Ocala	Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Ocala Variant	Typic Halaquepts, fine, montmorillonitic (calcareous), mesic
Ola	Pachic Haploxerolls, coarse-loamy, mixed, frigid
Onkeyo	Lithic Calcixerolls, loamy-skeletal, mixed, frigid
Orovada	Durixerollic Camborthids, coarse-loamy, mixed, mesic
Oupico	Xerollic Durorthids, coarse-loamy, mixed, mesic
Pamison	Aridic Calcixerolls, loamy-skeletal, mixed, frigid
Peeko	Xerollic Durorthids, loamy, mixed, mesic, shallow
Pequop	Typic Argixerolls, loamy-skeletal, mixed, frigid
Pernty	Lithic Argixerolls, loamy-skeletal, mixed, frigid
Pibler	Xerollic Paleorthids, loamy-skeletal, mixed, mesic, shallow
Player	Ultic Palexerolls, clayey-skeletal, montmorillonitic, frigid
Puett	Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Quarz	Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Quopant	Typic Argixerolls, loamy-skeletal, mixed, frigid, shallow
Rodie	Aridic Duric Haploxerolls, loamy-skeletal, mixed, frigid
Scalfar	Calcic Argixerolls, loamy-skeletal, mixed, frigid
Shafter	Typic Paleorthids, loamy, mixed, mesic, shallow
Shalcleav	Lithic Argixerolls, loamy-skeletal, mixed, frigid
Shalper	Lithic Argixerolls, loamy-skeletal, mixed, frigid
Shivlum	Aridic Argixerolls, fine-silty, mixed, frigid
Shuttle	Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic
Simon	Aridic Argixerolls, fine-loamy, mixed, frigid
Snotown	Dystric Cryochrepts, loamy-skeletal, mixed
Sodhouse	Typic Durorthids, loamy, mixed, mesic, shallow
Sondoa	Typic Torriorthents, fine-silty, mixed (calcareous), mesic
Sonoma	Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic
Soughe	Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic
Stampede	Aridic Durixerolls, fine, montmorillonitic, frigid
Sumine	Aridic Argixerolls, loamy-skeletal, mixed, frigid

TABLE 14.--CLASSIFICATION OF THE SOILS--Continued

Soil name	Family or higher taxonomic class
Tecomar	Lithic Xerollic Calciorthids, loamy-skeletal, carbonatic, mesic
Toano	Typic Torriorthents, coarse-silty, mixed (calcareous), mesic
Tomsherry	Vitrandic Durixerolls, ashy, frigid
Trinidad	Xeric Torriorthents, loamy, carbonatic, frigid, shallow
Tulase	Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic
Tusel	Argic Pachic Cryoborolls, loamy-skeletal, mixed
Tweener	Lithic Argixerolls, loamy-skeletal, mixed, frigid
Vadaho	Orthidic Durixerolls, loamy, mixed, mesic, shallow
Valmy	Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic
Vanwyper	Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Vitale	Typic Argixerolls, loamy-skeletal, mixed, frigid
Welch	Cumulic Haplaquolls, fine-loamy, mixed, frigid
Wicup	Aridic Argixerolls, fine, montmorillonitic, mesic
Wieland	Durixerollic Haplargids, fine, montmorillonitic, mesic
Wiffo Variant	Xerollic Camborthids, loamy-skeletal, mixed, mesic
Wiffo	Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Xerxes	Mollic Haploxeralfs, loamy-skeletal, mixed, mesic, shallow
Xica	Typic Argixerolls, loamy, mixed, frigid, shallow
Xipe	Fluvaquentic Haplaquolls, fine-silty over sandy or sandy-skeletal, mixed, mesic
Yuko	Xerollic Haplargids, loamy, mixed, mesic, shallow
Zapa	Haploxerollic Durorthids, loamy-skeletal, mixed, mesic
Zark	Mollic Vitrandepts, ashy, mesic

RANGELAND PLANTS AND WOODLAND UNDERSTORY

010--YUKO-AKLER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		YUKO	AKLER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	30-50	---
Indian ricegrass	ORHY	---	---	---	---	5-15
Sandberg bluegrass	POSE	---	2-8	---	---	---
Thurber needlegrass	STTH2	5-15	15-30	10-20	---	15-30
Webber needlegrass	STWE	---	2-8	---	---	---
basin wildrye	ELCI2	2-5	---	2-8	---	---
bluebunch wheatgrass	AGSP	60-80	20-40	20-35	15-30	---
bluegrass	POA++	---	---	2-10	2-10	---
globemallow	SPHAE	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	5-15	---	---	---	---
antelope bitterbrush	PUTR2	1-5	---	2-8	2-5	---
big sagebrush	ARTR2	---	---	10-20	---	---
black sagebrush	ARARN	---	---	---	---	25-35
low sagebrush	ARAR8	---	---	---	15-25	---
sagebrush	ARTEM	---	20-30	---	---	---

Range site number	025XY015NV	025XY018NV	025XY014NV	025XY017NV	024XY030NV
Potential production (lb/acre):					
Favorable years	1000	800	1000	900	500
Normal years	700	600	800	700	350
Unfavorable years	500	400	600	400	250

020--DONNA-IGDELL-VANWYPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		DONNA	IGDELL	VANWYPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	30-50	---	---	---	30-50	2-5
Nevada bluegrass	PONE3	---	---	---	---	---	---	2-5
Sandberg bluegrass	POSE	2-10	---	---	---	---	---	---
Thurber needlegrass	STTH2	10-20	---	5-15	10-20	10-20	---	2-8
Webber needlegrass	STWE	5-10	---	---	---	---	---	---
basin wildrye	ELCI2	---	---	2-5	2-8	2-8	---	5-10
bluebunch wheatgrass	AGSP	20-30	15-30	60-80	20-35	20-35	15-30	50-60
bluegrass	POA++	---	2-10	---	2-10	2-10	2-10	---
balsamroot	BALSA	2-5	---	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	5-15	---	---	---	---
antelope bitterbrush	PUTR2	---	2-5	1-5	2-8	2-8	2-5	2-10
big sagebrush	ARTR2	---	---	---	10-20	10-20	---	---
low sagebrush	ARAR8	25-35	15-25	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	---	---	---	---	---	5-15

Range site number	025XY022NV	025XY017NV	025XY015NV	025XY014NV	025XY014NV	025XY017NV	025XY009NV
Potential production (lb/acre):							
Favorable years	600	900	1000	1000	1000	900	1300
Normal years	400	700	700	800	800	700	900
Unfavorable years	250	400	500	600	600	400	700

021--DONNA-STAMPEDE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		DONNA	STAMPEDE	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	---	---	---	---	5-10
Sandberg bluegrass	POSE	2-8	---	2-8	2-8	---
Thurber needlegrass	STTH2	15-30	10-20	15-30	15-30	---
Webber needlegrass	STWE	2-8	---	2-8	2-8	---
basin wildrye	ELCI2	---	2-8	---	---	60-70
bluebunch wheatgrass	AGSP	20-40	20-35	20-40	20-40	---
bluegrass	POA++	---	2-10	---	---	---
mat muhly	MURI	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	2-8
antelope bitterbrush	PUTR2	---	2-8	---	---	---
basin big sagebrush	ARTRT	---	---	---	---	5-10
big sagebrush	ARTR2	---	10-20	---	---	---
sagebrush	ARTEM	20-30	---	20-30	20-30	---
Range site number		025XY018NV	025XY014NV	025XY018NV	025XY018NV	025XY003NV
Potential production (lb/acre--:						
Favorable years		800	1000	800	800	4500
Normal years		600	800	600	600	3500
Unfavorable years		400	600	400	400	2000

022--DONNA-IGDELL-DONNA, STRONGLY SLOPING ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		DONNA	IGDELL	DONNA	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	30-50	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	40-60	---
Sandberg bluegrass	POSE	2-8	---	2-8	---	---	2-8
Thurber needlegrass	STTH2	15-30	---	15-30	10-20	---	15-30
Webber needlegrass	STWE	2-8	---	2-8	---	---	2-8
alpine timothy	PHAL2	---	---	---	---	20-40	---
basin wildrye	ELCI2	---	---	---	2-8	2-8	---
bluebunch wheatgrass	AGSP	20-40	15-30	20-40	20-35	---	20-40
bluegrass	POA++	---	2-10	---	2-10	---	---
mat muhly	MURI	---	---	---	---	2-8	---
meadow barley	HOBR2	---	---	---	---	2-5	---
sedge	CAREX	---	---	---	---	2-8	---
antelope bitterbrush	PUTR2	---	2-5	---	2-8	---	---
big sagebrush	ARTR2	---	---	---	10-20	---	---
low sagebrush	ARAR8	---	15-25	---	---	---	---
sagebrush	ARTEM	20-30	---	20-30	---	---	20-30

Range site number	025XY018NV	025XY017NV	025XY018NV	025XY014NV	025XY006NV	025XY018NV
Potential production (lb acre):						
Favorable years	800	900	800	1000	2000	800
Normal years	600	700	600	800	1300	600
Unfavorable years	400	400	400	600	800	400

023--DONNA-FLECKNER-DONNA, STRONGLY SLOPING ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		DONNA	FLECKNER	DONNA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	40-60	30-40	---
Nevada bluegrass	PONE3	---	---	---	---	2-8	2-5	5-10
Sandberg bluegrass	POSE	2-8	---	2-8	---	---	---	---
Thurber needlegrass	STTH2	15-30	10-20	15-30	10-20	---	---	---
Webber needlegrass	STWE	2-8	---	2-8	---	---	---	---
alpine timothy	PHAL2	---	---	---	---	---	---	5-10
basin wildrye	ELCI2	---	2-8	---	2-8	2-8	2-10	---
bluebunch wheatgrass	AGSP	20-40	20-35	20-40	20-35	5-15	15-30	---
bluegrass	POA++	---	2-10	---	2-10	---	---	---
sedge	CAREX	---	---	---	---	---	---	5-10
tufted hairgrass	DECE	---	---	---	---	---	---	30-60
Sierra clover	TRWO	---	---	---	---	---	---	2-5
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5	---
cinquefoil	POTEN	---	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5	---
antelope bitterbrush	PUTR2	---	2-8	---	2-8	---	5-10	---
basin big sagebrush	ARTRT	---	---	---	---	10-20	---	---
big sagebrush	ARTR2	---	10-20	---	10-20	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20	---
sagebrush	ARTEM	20-30	---	20-30	---	---	---	---
Range site number		025XY018NV	025XY014NV	025XY018NV	025XY014NV	025XY027NV	025XY012NV	025XY005NV
Potential production (lb acre):								
Favorable years		800	1000	800	1000	1300	1400	3000
Normal years		600	800	600	800	900	1000	1700
Unfavorable years		400	600	400	600	500	700	1000

031--WELCH-CROOKED CREEK ASSOCIATION, WET

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		WELCH	CROOKED CREE	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	40-60	5-10	5-10	5-10	40-60
alpine timothy	PHAL2	20-40	5-10	5-10	---	20-40
basin wildrye	ELCI2	2-8	---	---	60-70	2-8
mat muhly	MURI	2-8	---	---	2-8	2-8
meadow barley	HOBR2	2-5	---	---	---	2-5
sedge	CAREX	2-8	5-10	5-10	---	2-8
streambank wheatgrass	AGDAR	---	---	---	2-8	---
tufted hairgrass	DECE	---	30-60	30-60	---	---
Sierra clover	TRWO	---	2-5	2-5	---	---
cinquefoil	POTEN	---	2-5	2-5	---	---
basin big sagebrush	ARTRT	---	---	---	5-10	---
Range site number		025XY006NV	025XY005NV	025XY005NV	025XY003NV	025XY006NV
Potential production (lb/acre):						
Favorable years		2000	3000	3000	4500	2000
Normal years		1300	1700	1700	3500	1300
Unfavorable years		800	1000	1000	2000	800

032--WELCH-KELK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		WELCH	KELK	Inclusion 1	Inclusion 2
Nevada bluegrass	PONE3	5-10	---	5-10	---
alkali sacaton	SPAI	---	---	---	5-25
alpine timothy	PHAL2	5-10	---	5-10	---
basin wildrye	ELCI2	---	55-65	---	50-60
creeping wildrye	ELTR3	---	5-15	---	---
sedge	CAREX	5-10	---	5-10	---
tufted hairgrass	DECE	30-60	---	30-60	---
western wheatgrass	AGSM	---	5-15	---	---
Sierra clover	TRWO	2-5	---	2-5	---
cinquefoil	POTEN	2-5	---	2-5	---
basin big sagebrush	APTRT	---	10-15	---	---
black greasewood	SAVE4	---	2-8	---	5-15
rubber rabbitbrush	CHNA2	---	---	---	2-5

Range site number	025XY005NV	024XY006NV	025XY005NV	024XY007NV
Potential production (lb/acre):				
Favorable years	3000	1500	3000	1900
Normal years	1700	1100	1700	1400
Unfavorable years	1000	600	1000	800

(34)--WELCH-CROOKED CREEK ASSOCIATION, DRY

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or inclusion number				
		WELCH	CROOKED CREE	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	5-10	5-10	5-10	40-60	5-10
alpine timothy	PHAL2	---	---	5-10	20-40	---
basin wildrye	ELCI2	60-70	60-70	---	2-8	60-70
mat muhly	MURI	2-8	2-8	---	2-8	2-8
meadow barley	HOBR2	---	---	---	2-5	---
sedge	CAREX	---	---	5-10	2-8	---
streambank wheatgrass	AGDAR	2-8	2-8	---	---	2-8
tufted hairgrass	DECE	---	---	30-60	---	---
Sierra clover	TRWO	---	---	2-5	---	---
cinquefoil	POTEN	---	---	2-5	---	---
basin big sagebrush	ARTRT	5-10	5-10	---	---	5-10
Range site number		025XY003NV	025XY003NV	025XY005NV	025XY006NV	025XY003NV
Potential production lb/acre						
Favorable years		4500	4500	3000	2000	4500
Normal years		3500	3500	1700	1300	3500
Unfavorable years		2000	2000	1000	800	2000

135--WELCH TRAINED WELCH SILTHEA ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number--						
		WELCH	WELCH	SILTHEA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	5-10	5-10	--	5-10	---	5-15	---
Thurber needlegrass	STTHI	--	--	10-15	--	10-15	---	---
alpine timothy	PHAL2	--	5-10		10-15	---	---	---
basin wildrye	ELCI2	5-10	---	5-8	5-8	5-8	---	---
bluebunch wheatgrass	AGSP	---	---	20-35	---	20-35	---	--
bluegrass	POA--	---	---	5-10	---	5-10	---	--
inland saltgrass	DISPS2		---	--	--	--	5-15	---
mat muhly	MURI	5-8	---	---	5-8		5-15	---
meadow barley	HOBR2	---	---	--	5-10	---	---	---
sedge	CAREX	---	5-10		5-10	---	5-10	--
streambank wheatgrass	AGDAR	5-8	---		---	---	---	---
tufted hairgrass	DECE	--	10-15	---	---	--	---	---
wildrye	ELYMU	--			--	---	5-10	---
Sierra clover	TRWO	--	5-10		--	---	---	--
cinquefoil	POTEN	---	5-10	--	---	---	---	---
antelope bitterbrush	PUTR2	---	--	5-10	--	5-10	---	--
basin big sagebrush	ARTRT	5-10	--	--	--	---	--	---
big sagebrush	ARTR2			10-20	---	10-20	--	---
willow	SALIX	---			--	---	5-10	---

Range site number	035XY 1NV	045XY 1NV	125XY 1NV	035XY 2NV	045XY 2NV	125XY 2NV	none
Potential production (lb acre--							
Favorable years	450	300	100	200	100	50	
Normal years	350	200	50	130	50	25	
Unfavorable years	250	100	0	50	0	0	

040--MCIVEY-QUARZ ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		MCIVEY	QUARZ	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-40	2-5	30-40	30-50	---
Nevada bluegrass	PONE3	2-5	2-5	2-5	---	5-10
Thurber needlegrass	STTH2	---	2-8	---	---	---
alpine timothy	PHAL2	---	---	---	---	5-10
basin wildrye	ELCI2	2-10	5-10	2-10	---	---
bluebunch wheatgrass	AGSP	15-30	50-60	15-30	15-30	---
bluegrass	POA++	---	---	---	2-10	---
sedge	CAREX	---	---	---	---	5-10
tufted hairgrass	DECE	---	---	---	---	30-60
Sierra clover	TRWO	---	---	---	---	2-5
arrowleaf balsamroot	BASA3	2-5	---	2-5	---	---
cinquefoil	POTEN	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	2-5	---	2-5	---	---
antelope bitterbrush	PUTR2	5-10	2-10	5-10	2-5	---
low sagebrush	ARAR8	---	---	---	15-25	---
mountain big sagebrush	ARVA2	10-20	5-15	10-20	---	---
Range site number		025XY012NV	025XY009NV	025XY012NV	025XY017NV	025XY005NV
Potential production (lb/acre):						
Favorable years		1400	1300	1400	900	3000
Normal years		1000	900	1000	700	1700
Unfavorable years		700	700	700	400	1000

060--COSER-ARVA-LERROW ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COSER	ARVA	LERROW	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	40-60	2-5	30-50	40-60	2-5	30-40
Nevada bluegrass	PONE3	---	2-8	2-5	---	2-8	2-5	2-5
Thurber needlegrass	STTH2	---	---	2-8	---	---	2-8	---
basin wildrye	ELCI2	---	2-8	5-10	---	2-8	5-10	2-10
bluebunch wheatgrass	AGSP	15-30	5-15	50-60	15-30	5-15	50-60	15-30
bluegrass	POA++	2-10	---	---	2-10	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	---	---	---	---	---	2-5
antelope bitterbrush	PUTR2	2-5	---	2-10	2-5	---	2-10	5-10
basin big sagebrush	ARTRT	---	10-20	---	---	10-20	---	---
low sagebrush	ARAR8	15-25	---	---	15-25	---	---	---
mountain big sagebrush	ARVA2	---	---	5-15	---	---	5-15	10-20
Range site number		025XY017NV	025XY027NV	025XY009NV	025XY017NV	025XY027NV	025XY009NV	025XY012NV
Potential production (lb/acre):								
Favorable years		900	1300	1300	900	1300	1300	1400
Normal years		700	900	900	700	900	900	1000
Unfavorable years		400	500	700	400	500	700	700

070--STAMPEDE-DONNA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		STAMPEDE	DONNA	Inclusion 1	Inclusion 2
Nevada bluegrass	PONE3	---	---	---	5-10
Sandberg bluegrass	POSE	---	2-8	---	---
Thurber needlegrass	STTH2	10-20	15-30	10-20	---
Webber needlegrass	STWE	---	2-8	---	---
alpine timothy	PHAL2	---	---	---	5-10
basin wildrye	ELCI2	2-8	---	2-8	---
bluebunch wheatgrass	AGSP	20-35	20-40	20-35	---
bluegrass	POA++	2-10	---	2-10	---
sedge	CAREX	---	---	---	5-10
tufted hairgrass	DECE	---	---	---	30-60
Sierra clover	TRWO	---	---	---	2-5
cinquefoil	POTEN	---	---	---	2-5
antelope bitterbrush	PUTR2	2-8	---	2-8	---
big sagebrush	ARTR2	10-20	---	10-20	---
sagebrush	ARTEM	---	20-30	---	---
Range site number		025XY014NV	025XY018NV	025XY014NV	025XY005NV
Potential production (lb./acre):					
Favorable years		1000	800	1000	3000
Normal years		800	600	800	1700
Unfavorable years		600	400	600	1000

STD--STAMPEDE-SIMON-ARVA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		STAMPEDE	SIMON	ARVA	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	40-60	---	---	---
Nevada bluegrass	PONE3	---	---	2-8	---	---	---
Thurber needlegrass	STTH2	15-20	15-20	---	15-25	5-15	15-25
basin wildrye	ELCI2	2-8	2-8	2-8	---	2-6	---
bluebunch wheatgrass	AGSP	20-35	20-35	5-15	20-35	60-80	20-35
bluegrass	POA++	2-10	2-10	--	---	---	---
Wyoming big sagebrush	ARTRW	---	---	--	20-3[illegible]	5-15	20-30
antelope bitterbrush	PUTR2	2-8	2-8	---	2-5	1-5	2-5
basin big sagebrush	ARTRT	---	---	15-[illegible]	---	---	---
big sagebrush	ARTR2	15-25	15-25	---	---	---	---

Range site number	025XY014NV	025XY014NV	025XY027NV	025XY021NV	025XY015NV	025XY021NV
Potential production (lb acre).						
Favorable years	1000	1000	1300	600	1000	600
Normal years	800	800	900	400	700	400
Unfavorable years	600	600	500	250	500	250

080--WIELAND-CHIARA-PUETT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		WIELAND	CHIARA	PUETT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	15-30	---	---	---	---
Sandberg bluegrass	POSE	2-5	2-5	---	2-5	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	---	15-25	15-25	15-25	15-25
basin wildrye	ELCI2	---	---	2-8	---	---	---	---
bluebunch wheatgrass	AGSP	25-40	25-40	---	25-40	25-40	25-40	25-40
bottlebrush squirreltail	SIHY	---	---	5-10	---	---	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-30	15-25	15-25	15-25	15-25
antelope bitterbrush	PUTR2	---	---	2-8	---	---	---	---
black sagebrush	ARARN	---	---	10-20	---	---	---	---
spiny hopsage	GRSP	---	---	2-5	---	---	---	---
Range site number		025XY019NV	025XY019NV	025XY025NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre):								
Favorable years		800	800	500	800	800	800	800
Normal years		600	600	350	600	600	600	600
Unfavorable years		400	400	200	400	400	400	400

081--WIELAND-GANCE-NEVADOR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		WIELAND	GANCE	NEVADOR	Inclusion 1	Inclusion 2
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	25-40
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	15-25
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre):						
Favorable years		800	800	800	800	800
Normal years		600	600	600	600	600
Unfavorable years		400	400	400	400	400

082--WIELAND-HUNNTON-HUNEWILL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		WIELAND	HUNNTON	HUNEWILL	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-25	10-20
basin wildrye	ELCI2	---	---	---	---	---	2-8
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	25-40	20-35
bluegrass	POA++	---	---	---	---	---	2-10
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	15-25	---
antelope bitterbrush	PUTR2	---	---	---	---	---	2-8
big sagebrush	ARTR2	---	---	---	---	---	10-20
Range site number		025XY019NV	025XY319NV	025XY019NV	025XY019NV	025XY019NV	025XY014NV
Potential production (lb acre):							
Favorable years		800	800	800	800	800	1000
Normal years		600	600	600	600	600	800
Unfavorable years		400	400	400	400	400	600

[Absence of an entry indicates that the named plant is not a key species in the potential native plant community]

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		WIELAND	NEVADOR	DONNA	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	15-30	15-25	15-25	5-15
Webber needlegrass	STWE	---	---	2-5	---	---	---
basin wildrye	ELCI2	---	---	---	---	---	2-5
bluebunch wheatgrass	AGSP	25-40	25-40	30-40	25-40	25-40	60-80
Wyoming big sagebrush	ARTRW	15-25	15-25	---	15-25	15-25	5-15
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5
sagebrush	ARTEM	---	---	20-30	---	---	---
Range site number		025XY019NV	025XY019NV	025XY018NV	025XY019NV	025XY019NV	025XY015NV
Potential production (lb/acre):							
Favorable years		800	800	800	800	800	1000
Normal years		600	600	600	600	600	700
Unfavorable years		400	400	400	400	400	500

090--HUNNTON-CHIARA-BILBO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HUNNTON	CHIARA	BILBO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	---	---	15-30	---
Sandberg bluegrass	POSE	2-5	2-5	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	15-25	15-25	5-15	15-25	15-25	---	5-15
basin wildrye	ELCI2	---	---	2-5	---	---	2-8	2-5
bluebunch wheatgrass	AGSP	25-40	25-40	60-80	25-40	25-40	---	60-80
bottlebrush squirreltail	SIHY	---	---	---	---	---	5-10	---
Wyoming big sagebrush	ARTRW	15-25	15-25	5-15	15-25	15-25	15-30	5-15
antelope bitterbrush	PUTR2	---	---	1-5	---	---	2-8	1-5
black sagebrush	ARARN	---	---	---	---	---	10-20	---
spiny hopsage	GRSP	---	---	---	---	---	2-5	---
Range site number		025XY019NV	025XY019NV	025XY015NV	025XY019NV	025XY019NV	025XY025NV	025XY015NV
Potential production (lb/acre):								
Favorable years		800	800	1000	800	800	500	1000
Normal years		600	600	700	600	600	350	700
Unfavorable years		400	400	500	400	400	200	500

093--HUNNTON-WIELAND ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNNTON	WIELAND	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	---	---	---	---	---	5-10
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	---	15-25	---
alpine timothy	PHAL2	---	---	---	---	---	5-10
basin wildrye	ELCI2	---	---	---	55-65	---	---
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	---	25-40	---
creeping wildrye	ELTR3	---	---	---	5-15	---	---
sedge	CAREX	---	---	---	---	---	5-10
tufted hairgrass	DECE	---	---	---	---	---	30-60
western wheatgrass	AGSM	---	---	---	5-15	---	---
Sierra clover	TRWO	---	---	---	---	---	2-5
cinquefoil	POTEN	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	---	15-25	---
basin big sagebrush	ARTRT	---	---	---	10-15	---	---
black greasewood	SAVE4	---	---	---	2-8	---	---
Range site number		025XY019NV	025XY019NV	025XY019NV	024XY006NV	025XY019NV	025XY005NV
Potential production (lb/acre):							
Favorable years		800	800	800	1500	800	3000
Normal years		600	600	600	1100	600	1700
Unfavorable years		400	400	400	600	400	1000

094--HUNNTON-CHIARA-WIELAND ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		HUNNTON	CHIARA	WIELAND	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	---	---	15-30
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	---	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	10-20	---
basin wildrye	ELCI2	---	---	---	---	2-8	2-8
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	20-35	---
bluegrass	POA++	---	---	---	---	2-10	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	5-10
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	---	15-30
antelope bitterbrush	PUTR2	---	---	---	---	2-8	2-8
big sagebrush	ARTR2	---	---	---	---	10-20	---
black sagebrush	ARARN	---	---	---	---	---	10-20
spiny hopsage	GRSP	---	---	---	---	---	2-5
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY014NV	025XY025NV
Potential production (lb/acre):							
Favorable years		800	800	800	800	1000	500
Normal years		600	600	600	600	800	350
Unfavorable years		400	400	400	400	600	200

11[--?BEK?-SBWAF-PUBTT ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		PSEK	SBWAF	PUBTT	Inclusion 4	Inclusion 5	Inclusion 6
Indian ricegrass	ORHY	5-15	---	15-25	---	5-15	---
Sandberg bluegrass	POSE	---	2-5	---	2-5	---	2-5
Thurber needlegrass	STTH2	15-30	15-25	---	15-25	15-30	15-25
basin wildrye	ELTR2	---	---	2-5	---	---	---
bluebunch wheatgrass	AGSP	---	25-45	---	25-45	---	25-45
bottlebrush squirreltail	SIHY	---	---	5-15	---	---	---
globemallow	SPHAE	2-5	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	15-25	15-25	15-25	---	15-25
antelope bitterbrush	PUTR2	---	---	2-5	---	---	---
black sagebrush	ARNO4	15-35	---	15-25	---	25-35	---
spiny hopsage	GRSP	---	---	2-5	---	---	---

Range site number	024XY [illegible]	024X[illegible]XY	030XY[illegible]NV	036XY[illegible]NV	042XY030NV	058XY019NV
Potential production (lb/acre):						
Favorable years	5[illegible]	[illegible]	5[illegible]	[illegible]	5[illegible]	800
Normal years	3[illegible]	[illegible]	35[illegible]	6[illegible]	350	400
Unfavorable years	150	4[illegible]	2[illegible]	4[illegible]	250	400

121--PEEKO-DEWAR-PEEKO, MODERATELY STEEP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		PEEKO	DEWAR	PEEKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	---	5-15	---	15-30	---	---
Sandberg bluegrass	POSE	---	2-5	---	2-5	---	---	2-5
Thurber needlegrass	STTH2	15-30	15-25	15-30	15-25	---	5-15	15-25
basin wildrye	ELCI2	---	---	---	---	2-8	2-5	---
bluebunch wheatgrass	AGSP	---	25-40	---	25-40	---	60-80	25-40
bottlebrush squirreltail	SIHY	---	---	---	---	5-10	---	---
globemallow	SPHAE	2-5	---	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	15-25	---	15-25	15-30	5-15	15-25
antelope bitterbrush	PUTR2	---	---	---	---	2-8	1-5	---
black sagebrush	ARARN	25-35	---	25-35	---	10-20	---	---
spiny hopsage	GRSP	---	---	---	---	2-5	---	---
Range site number		024XY030NV	025XY019NV	024XY030NV	025XY019NV	025XY015NV	025XY015NV	025XY019NV
Potential production (lb acre):								
Favorable years		500	800	500	800	500	1000	800
Normal years		350	600	350	600	350	700	600
Unfavorable years		200	400	200	400	200	500	400

... FEER) FURI-IDWAR AGS (IATI N

Absence it an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number:					
		FEER	FURI	IDWAR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ARHY	5-10	-	-		---	5-10
Sandberg bluegrass	POSE	---	5	5	5	5	---
Thurber needlegrass	STTHL	15-3.	15-20	15-25	15-25	15-25	15-20
bluebunch wheatgrass	AGSP	---	25-4	25-4.	25-4	25-40	---
globemallow	SPHAE	5-5	- -	-	- -	- -	5-5
wyoming big sagebrush	ARTRW	---	15-25	15-25	15-25	15-25	---
black sagebrush	ARNO	25-35	---	- -	---	---	25-35
Range site number		024XY.20NV	25XY.19NV	025XY.19NV	25XY.19NV	25XY.19NV	024XY030NV
Potential production (lb acre -							
Favorable years		6.	5	---	5	5.0	5.0
Normal years		25	4..	4	4	4.0	35
Unfavorable years		25	4	4	4.0	4.0	25.

124--PEEKO-PEEKO, MODERATELY STEEP GANCE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PEEKO	PEEKO	GANCE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	5-15	---	---	5-15	---
Sandberg bluegrass	POSE	---	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	15-30	15-30	15-25	15-25	15-30	10-20
Basin wildrye	ELCI2	---	---	---	---	---	2-8
Bluebunch wheatgrass	AGSP	---	---	25-40	25-40	---	20-35
Bluegrass	POA++	---	---	---	---	---	2-10
Globemallow	SPHAE	2-5	2-5	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	15-25	15-25	---	---
Antelope bitterbrush	PUTR2	---	---	---	---	---	2-8
Big sagebrush	ARTR2	---	---	---	---	---	10-20
Black sagebrush	ARARN	25-35	25-35	---	---	25-35	---

Range site number	024XY030NV	024XY030NV	025XY019NV	025XY019NV	024XY030NV	025XY014NV
Potential production (lb/acre)--						
Favorable years	500	500	800	800	500	1000
Normal years	350	350	600	600	350	800
Unfavorable years	250	250	400	400	250	600

125--PEEKO-CHIARA-PUETT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- PEEKO	CHIARA	PUETT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ACHY	5-15	---	15-30	5-15	5-15	5-15	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	---	2-5
Thurber needlegrass	STTH2	15-30	15-25	-	15-30	15-30	15-30	15-25
basin wildrye	ELCI2	-	- -	2-5	---	---	---	---
bluebunch wheatgrass	AGSP	---	25-40	---	---	---	---	25-40
bottlebrush squirreltail	SIHY	---	---	5-15	---	---	---	---
globemallow	SPHAE	2-5	---	---	2-5	2-5	2-5	---
Wyoming big sagebrush	ARTRW	---	15-25	15-30	---	---	---	15-25
antelope bitterbrush	PUTR2	---	---	2-5	---	---	---	---
black sagebrush	ARNO	25-35	---	15-25	25-35	25-35	25-35	---
spiny hopsage	GRSP	---	---	2-5	---	---	---	---
Range site number		024XY030NV	025XY019NV	025XY025NV	024XY030NV	024XY030NV	024XY030NV	025XY019NV
Potential production (lb acre):								
Favorable years		500	800	500	500	500	500	800
Normal years		350	600	350	350	350	350	600
Unfavorable years		250	400	200	250	250	250	400

11% - PEEKO-CAFA ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PEEKO	CAFA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	---	5-15
Indian ricegrass	ORHY	5-15	5-15	---	5-15	---	---
Sandberg bluegrass	POSE	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	15-30	15-25	15-25	15-30	5-15	---
Basin wildrye	ELCI2	---	---	---	---	2-5	2-8
bluebunch wheatgrass	AGSP	---	---	25-40	---	60-80	15-25
mountain brome	BRCA5	---	---	---	---	---	5-10
prairie junegrass	KOMA	2-5	2-5	---	2-5	---	---
Utah serviceberry	AMUT	---	---	---	---	---	2-8
Wyoming big sagebrush	ARTRW	---	---	15-25	---	5-15	---
antelope bitterbrush	PUTR2	---	---	---	---	1-5	2-10
black sagebrush	ARNO4	25-35	25-35	---	25-35	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20

Range site number	024XY033NV	024XY030NV	025XY019NV	024XY030NV	025XY015NV	025XY042NV
Potential production (lb/acre):						
Favorable years	500	500	800	500	1000	700
Normal years	350	350	600	350	700	500
Unfavorable years	250	250	400	250	500	300

127--PEEKO-CHIARA ASSOCIATION

*An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PEEKO	CHIARA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	---	5-15	---	2-5	X
Sandberg bluegrass	POSE	---	2-5	---	2-5	---	---
Thurber needlegrass	STTH2	15-30	15-25	15-30	15-25	10-20	X
bluebunch wheatgrass	AGSP	---	25-40	---	25-40	20-35	X
bluegrass	POA++	---	---	---	---	---	X
globemallow	SPHAE	2-5	---	2-5	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	X
phlox	PHLOX	---	---	---	---	---	X
Wyoming big sagebrush	ARTRW	---	15-25	---	15-25	---	---
black sagebrush	ARAR8	25-35	---	25-35	---	25-35	X
downy rabbitbrush	CHVIP4	---	---	---	---	---	X
Utah juniper	JUOS	---	---	---	---	---	X

Range site number	024XY030NV	025XY019NV	024XY030NV	025XY019NV	024XY031NV	025XY060NV
Potential production (lb/acre):						
Favorable years	500	800	500	800	700	400
Normal years	350	600	350	600	500	275
Unfavorable years	250	400	250	400	300	150

129--DEWAR-CHUSPA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or inclusion number--			
		DEWAR	CHUSPA	Inclusion 1	Inclusion 2
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5
Thurber needlegrass	STTHI	15-25	15-25	15-25	15-25
Bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre					
Favorable years		800	800	800	800
Normal years		600	600	600	600
Unfavorable years		400	400	400	400

13.--FEWAR-WIBLAN BIOL. ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions Soil name or inclusion number--				
		FEWAR	WIBLAN	BILBI	Inclusion 1	Inclusion 2
Nevada bluegrass	PONE	-	-	-	--	5-10
Sandberg bluegrass	POSE	5--	-- 5	--	-15	--
Thurber needlegrass	ACTHU	15-20	15-20	5-10	10-15	---
Cusick wildrye	ELCU2	---	---	5-10	---	5-10
Bluebunch wheatgrass	AGSP	20-30	20-30	5-10	20-40	--
Nat Muhly	MUPU	-	-	---	---	5-10
Streambank wheatgrass	AGDAR	---	---	--	---	5-10
Wyoming big sagebrush	ARTRW	10-20	10-20	5-10	10-20	---
Antelope bitterbrush	PUTRO	-	--	1-5	---	---
Basin big sagebrush	ARTRT	--		--	---	5-10
Range site number		028XY013NV	028XY014NV	028XY018NV	028XY019NV	028XY038NV
Potential production (lb/acre						
Favorable years		4	5	17	4--	450
Normal years		3	4	12	3--	350
Unfavorable years		1	2	6--	1--	200

131--DEWAR-HUNNTON-GANCE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		DEWAR	HUNNTON	GANCE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	---	5-15	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	5-10	---
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	---	---	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-35	---	5-15
basin wildrye	ELCI2	---	---	---	---	---	60-70	2-5
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	---	---	60-80
mat muhly	MURI	---	---	---	---	---	2-8	---
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8	---
globemallow	SPHAE	---	---	---	---	2-5	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	---	---	5-15
antelope bitterbrush	PUTR2	---	---	---	---	---	---	1-5
basin big sagebrush	ARTRT	---	---	---	---	---	5-10	---
black sagebrush	ARARN	---	---	---	---	25-35	---	---

Range site number	025XY019NV	025XY019NV	025XY019NV	025XY019NV	024XY030NV	025XY003NV	025XY015NV
Potential production (lb/acre)--							
Favorable years	800	800	800	800	500	4500	1000
Normal years	600	600	600	600	350	3500	700
Unfavorable years	400	400	400	400	250	2000	500

1.2 -DEWAR-PEEKC-BILBO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number--						
		DEWAR	PEEKC	BILBO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	5-15	---	---	---	---	---
Sandberg bluegrass	POSE	2-5	---	---	2-5	2-5	2-5	2-5
Thurber needlegrass	STTHI	15-25	15-30	5-15	15-25	15-25	15-25	15-25
basin wildrye	ELCI2	---	---	2-5	---	---	---	---
bluebunch wheatgrass	AGSP	25-40	---	60-85	25-40	25-40	25-40	25-40
globemallow	SPHAE	---	2-5	---	---	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	5-15	15-25	15-25	15-25	15-25
antelope bitterbrush	PUTR2	---	---	1-5	---	---	---	---
black sagebrush	ARAR8	---	25-35	---	---	---	---	---
Range site number		025XY019NV	024XY030NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre):								
Favorable years		800	500	1000	800	800	800	800
Normal years		600	350	700	600	600	600	600
Unfavorable years		400	250	500	400	400	400	400

123--DEWAR-CHIARA-HUNTON ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		DEWAR	CHIARA	HUNTON	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	0-5	0-5	0-5	0-5	0-5	0-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-25	15-25
Bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	25-40	25-40
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	15-25	15-25
Range site number		058XY019WY	058XY019WY	058XY019WY	058XY019WY	058XY019WY	058XY019WY
Potential production (lb/acre)							
Favorable years		6	7	5	8	600	600
Normal years		4	5	4	5	400	400
Unfavorable years		3	4	3	4	300	300

115 DEWAR-YURI ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or inclusion number--			
		DEWAR	YURI	Inclusion 1	Inclusion 2
Sandberg bluegrass	POSE	2-5	---	---	2-5
Thurber needlegrass	STTH2	15-25	5-15	10-20	15-25
basin wildrye	ELCI1	---	2-5	2-8	---
bluebunch wheatgrass	AGSP	25-40	60-80	20-35	25-40
bluegrass	POA**	---	---	2-10	---
Wyoming big sagebrush	ARTRW	15-25	5-15	---	15-25
antelope bitterbrush	PUTR2	---	1-5	2-8	---
big sagebrush	ARTR2	---	---	10-20	---

Range site number	025XY014NV	025XY018NV	25XY014NV	025XY019NV
Potential production (lb/acre)				
Favorable years	800	1000	1000	800
Normal years	600	700	800	600
Unfavorable years	400	500	600	400

136--DEWAR-NEVADOR-HUNDRAW ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or inclusion number--				
		DEWAR	NEVADOR	HUNDRAW	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	---	---	5-15	---	---
Sandberg bluegrass	POSE	2-5	2-5	---	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	15-30	15-25	5-15
basin wildrye	ELCI2	---	---	---	---	2-5
bluebunch wheatgrass	AGSP	25-40	25-40	---	25-40	60-80
globemallow	SPHAE	---	---	2-5	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	---	15-25	5-15
antelope bitterbrush	PUTR2	---	---	---	---	1-5
black sagebrush	ARAR8	---	---	25-35	---	---
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY015NV
Potential production (lb/acre)						
Favorable years		800	800	500	800	1,200
Normal years		600	600	350	600	900
Unfavorable years		400	400	250	400	600

137--IBWAP-GUINEA ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or inclusion number--			
		IBWAP	GUINEA	Inclusion 1	Inclusion 2
Sandberg bluegrass	POSE	[illegible]	[illegible]	1-5	1-5
Thurber needlegrass	STTH2	15-25	1-[illegible]	15-25	15-25
Basin wildrye	ELCI2	[illegible]	[illegible]	---	---
bluebunch wheatgrass	AGSP	25-40	[illegible]-35	25-40	25-40
bluegrass	PSA--	---	[illegible]	---	---
wyoming big sagebrush	ARTRW	15-25	[illegible]	15-25	15-25
antelope bitterbrush	PUTR2	---	[illegible]	---	---
big sagebrush	ARTR2	---	[illegible]	---	---
Range site number		[illegible]	[illegible]	[illegible]	[illegible]
Potential production (lb/acre)					
Favorable years		[illegible]	[illegible]	[illegible]	[illegible]
Normal years		[illegible]	[illegible]	[illegible]	[illegible]
Unfavorable years		[illegible]	[illegible]	[illegible]	[illegible]

18- DEWAR-JACKPOT-DEWAR MODERATELY SLOPING ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		DEWAR	JACKPOT	DEWAR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	OFHY		15-30		---	2-5	---
Sandberg bluegrass	POSE	2-5	--	2-5	---	---	---
Thurber needlegrass	STTH2	15-25		15-25	10-20	---	5-15
basin wildrye	ELCI1	-	5-10	---	2-8	5-20	2-5
bluebunch wheatgrass	AGSP	35-45	-	35-45	20-35	---	60-80
bluegrass	POA++	--	--	---	2-10	---	---
bottlebrush squirreltail	SIHY	---	---	-	---	2-5	---
needleandthread	STCO4	-	5-10		---	---	---
globemallow	SPHAE	---	--	---	---	1-2	---
thelypody	THELY	---	--	---	---	2-4	---
Wyoming big sagebrush	ARTRW	15-25	---	15-25	---	---	5-15
antelope bitterbrush	PUTR2	---	---	---	2-8	---	1-5
big sagebrush	ARTR2	---	15-25	---	10-20	10-25	---
black greasewood	SAVE4	---	---	---	---	20-35	---
spiny hopsage	GRSP	---	1-5	---	---	5-15	---

Range site number	025XY019NV	024XY017NV	025XY019NV	025XY014NV	024XY022NV	025XY015NV
Potential production (lb/acre):						
Favorable years	800	900	800	1200	800	1200
Normal years	600	700	600	800	600	700
Unfavorable years	400	500	400	600	350	500

139--DEWAR-YUKO-IZAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		DEWAR	YUKO	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	5-15	5-15	5-15	5-15	15-30
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTHT	15-25	5-15	15-30	15-30	15-30	15-30	---
basin wildrye	ELCI2	---	2-5	---	---	---	---	5-10
bluebunch wheatgrass	AGSP	25-40	60-80	---	---	---	---	---
needleandthread	STCO4	---	---	---	---	---	---	30-40
globemallow	SPHAE	---	---	2-5	2-5	2-5	2-5	---
Wyoming big sagebrush	ARTRW	15-25	5-15	---	---	---	---	---
antelope bitterbrush	PUTR2	---	1-5	---	---	---	---	---
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	---	---	25-35	25-35	25-35	25-35	---
spiny hopsage	GRSP	---	---	---	---	---	---	1-5
Range site number		025XY019NV	025XY015NV	024XY030NV	024XY030NV	024XY030NV	024XY030NV	024XY017NV
Potential production (lb/acre):								
Favorable years		800	1000	500	500	500	500	900
Normal years		600	700	350	350	350	350	700
Unfavorable years		400	500	250	250	250	250	500

140--CHIARA-WIELAND-ENKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CHIARA	WIELAND	ENKO	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-25	---
basin wildrye	ELCI2	---	---	---	---	---	55-65
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	25-40	---
creeping wildrye	ELTR3	---	---	---	---	---	5-15
western wheatgrass	AGSM	---	---	---	---	---	5-15
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	15-25	---
basin big sagebrush	ARTRT	---	---	---	---	---	10-15
black greasewood	SAVE4	---	---	---	---	---	2-8
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV	024XY006NV
Potential production (lb/acre):							
Favorable years		800	800	800	800	800	1500
Normal years		600	600	600	600	600	1100
Unfavorable years		400	400	400	400	400	600

141--CHIARA-KELK-KELK, RARELY FLOODED ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CHIARA	KELK	KELK	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	15-30	---	---
Sandberg bluegrass	POSE	2-5	2-5	---	---	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	---	---	15-25	15-25
basin wildrye	ELCI2	---	---	55-65	2-8	---	---
bluebunch wheatgrass	AGSP	25-40	25-40	---	---	25-40	25-40
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---
creeping wildrye	ELTR3	---	---	5-15	---	---	---
western wheatgrass	AGSM	---	---	5-15	---	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	---	15-30	15-25	15-25
antelope bitterbrush	PUTR2	---	---	---	2-8	---	---
basin big sagebrush	ARTRT	---	---	10-15	---	---	---
black greasewood	SAVE4	---	---	2-8	---	---	---
black sagebrush	ARARN	---	---	---	10-20	---	---
spiny hopsage	GRSP	---	---	---	2-5	---	---

Range site number	025XY019NV	025XY019NV	024XY006NV	025XY025NV	025XY019NV	025XY019NV
Potential production (lb/acre):						
Favorable years	800	800	1500	500	800	800
Normal years	600	600	1100	350	600	600
Unfavorable years	400	400	600	200	400	400

144--CHIARA DEWAR-ENKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		CHIARA	DEWAR	ENKO	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-25	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	25-40	25-40
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	15-25	15-25
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre)							
Favorable years		800	800	800	800	800	800
Normal years		600	600	600	600	600	600
Unfavorable years		400	400	400	400	400	400

15[illegible]--SHALFER-TUSEL-SHALCLEA, ASSOCIATION

"Absence of an entry indicates that the named plant is not a key species in the potential native plant community"

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number						
		SHALFER	TUSEL	SHALCLEAY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	[illegible]	2-5	---	---	---	---	---
Idaho fescue	FEID	---	1-1[illegible]	---	---	15-20	2-5	---
Indian ricegrass	ORHY	---	[illegible]	2-[illegible]	---	---	---	---
Nevada bluegrass	PONE3	---	2-5	---	---	---	2-5	---
Thurber needlegrass	STTH2	15-25	---	1[illegible]-20	10-20	2-5	2-8	---
basin wildrye	ELCI2	---	[illegible]	---	2-8	---	5-10	---
bluebunch wheatgrass	AGSP	2[illegible]-35	2-5	30-40	20-35	10-20	50-60	---
bluegrass	POA++	---	[illegible]	[illegible]	2-10	---	---	---
mountain brome	BRCA5	---	5-15	---	---	---	---	---
slender wheatgrass	AGTR	---	5-15	---	[illegible]	---	---	---
spike fescue	LEKI2	---	2-10	---	---	---	---	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---	---
Wyoming big sagebrush	ARTRW	2[illegible]	[illegible]	[illegible]	---	---	---	---
antelope bitterbrush	PUTR2	2-5	1-5	---	2-5	10-[illegible]	2-10	---
big sagebrush	ARTRI	---	[illegible]	---	1[illegible]-2[illegible]	[illegible]-[illegible]	---	---
black sagebrush	ARNO	---	---	[illegible]-[illegible]	[illegible]-[illegible]	---	---	---
common snowberry	PRVI	---	1-5	[illegible]	---	---	---	---
mountain big sagebrush	ARTR4		[illegible]-25	[illegible]	[illegible]	5-10	5-15	---
snowberry	SYMPH	---	1-10	[illegible]	[illegible]	---	---	[illegible]
Range site number		025XY021NV	025XY014NV	025XY [illegible]7NV	025XY014NV	025XY017NV	025XY009NV	none
Potential production (lb/acre):								
Favorable years		6[illegible]	2e[illegible]	7[illegible]	1[illegible]0	2[illegible]0	13[illegible]	
Normal years		4[illegible]	1[illegible]	5[illegible]	8[illegible]	14[illegible]	9[illegible]	
Unfavorable years		2[illegible]	1[illegible]	3[illegible]	6[illegible]	4[illegible]	7[illegible]	

151--SHALPER-SOUGHE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALPER	SOUGHE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	---	---	2-8
Sandberg bluegrass	POSE	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	15-25	5-15	5-15	10-20	10-20	10-20
basin wildrye	ELCI2	---	2-5	---	2-8	2-8	---
bluebunch wheatgrass	AGSP	20-35	60-80	25-35	20-35	20-35	30-40
bluegrass	POA++	---	---	---	2-10	2-10	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	20-30	5-15	---	---	---	---
antelope bitterbrush	PUTR2	2-5	1-5	---	2-8	2-8	---
big sagebrush	ARTR2	---	---	---	10-20	10-20	---
black sagebrush	ARARN	---	---	25-35	---	---	20-30
Range site number		025XY021NV	025XY015NV	025XY055NV	025XY014NV	025XY014NV	025XY057NV
Potential production (lb/acre):							
Favorable years		600	1000	500	1000	1000	700
Normal years		400	700	375	800	800	500
Unfavorable years		250	500	250	600	600	300

154--SHALPER-CONTACT-ROCK OUTCROP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALPER	CONTACT	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	---	2-8	2-5	---
Thurber needlegrass	STTH2	15-25	10-20	---	5-10	10-20	---	5-15
basin wildrye	ELCI2	---	2-8	---	---	---	5-20	2-5
bluebunch wheatgrass	AGSP	20-35	20-35	---	10-20	30-40	---	60-80
bluegrass	POA++	---	2-10	---	---	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5	---
globemallow	SPHAE	---	---	---	---	---	1-2	---
thelypody	THELY	---	---	---	---	---	2-4	---
Wyoming big sagebrush	ARTRW	20-30	---	---	---	---	---	5-15
antelope bitterbrush	PUTR2	2-5	2-8	---	5-15	---	---	1-5
big sagebrush	ARTR2	---	10-20	---	---	---	10-25	---
black greasewood	SAVE4	---	---	---	---	---	20-30	---
black sagebrush	ARARN	---	---	---	---	20-30	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---	---	---
oceanspray	HOLOD	---	---	---	15-30	---	---	---
spiny hopsage	GRSP	---	---	---	---	---	5-15	---
Range site number		025XY021NV	025XY014NV	none	025XY058NV	025XY057NV	024XY022NV	025XY015NV
Potential production (lb/acre):								
Favorable years		600	1000		700	700	800	1000
Normal years		400	800		500	500	600	700
Unfavorable years		250	600		350	300	350	500

155--SHALPER-ROCK OUTCROP-PEQUOP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALPER	ROCK OUTCROP	PEQUOP	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	30-40	---	30-50	40-60
Nevada bluegrass	PONE3	---	---	2-5	---	---	2-8
Thurber needlegrass	STTH2	15-25	---	---	5-10	---	---
basin wildrye	ELCI2	---	---	2-10	---	---	2-8
bluebunch wheatgrass	AGSP	20-35	---	15-30	10-20	15-30	5-15
bluegrass	POA++	---	---	---	---	2-10	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	20-30	---	---	---	---	---
antelope bitterbrush	PUTR2	2-5	---	5-10	5-15	2-5	---
basin big sagebrush	ARTRT	---	---	---	---	---	10-20
low sagebrush	ARAR8	---	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	---	10-20	5-15	---	---
oceanspray	HOLOD	---	---	---	15-30	---	---
Range site number		025XY021NV	none	025XY012NV	025XY058NV	025XY017NV	025XY027NV
Potential production (lb acre):							
Favorable years		600		1400	700	900	1300
Normal years		400		1000	500	700	900
Unfavorable years		250		700	350	400	500

156--SHALPER-DEWAR-YUKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALPER	DEWAR	YUKO	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	40-60	2-5	---
Nevada bluegrass	PONE3	---	---	---	2-8	2-5	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	15-25	15-25	5-15	---	2-8	10-20
basin wildrye	ELCI2	---	---	2-5	2-8	5-10	2-8
bluebunch wheatgrass	AGSP	20-35	25-40	60-80	5-15	50-60	20-35
bluegrass	POA++	---	---	---	---	---	2-10
Wyoming big sagebrush	ARTRW	20-30	15-25	5-15	---	---	---
antelope bitterbrush	PUTR2	2-5	---	1-5	---	2-10	2-8
basin big sagebrush	ARTRT	---	---	---	10-20	---	---
big sagebrush	ARTR2	---	---	---	---	---	10-20
mountain big sagebrush	ARVA2	---	---	---	---	5-15	---
Range site number		025XY021NV	025XY019NV	025XY019NV	025XY027NV	025XY009NV	025XY014NV
Potential production (lb acre):							
Favorable years		600	800	1000	1300	1300	1000
Normal years		400	600	700	900	900	800
Unfavorable years		250	400	500	500	700	600

160--DACKER-NEVADOR-KELK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		DACKER	NEVADOR	KELK	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25	15-25	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40	25-40	25-40
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25	15-25	15-25
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		800	800	800	800	800	800
Normal years		600	600	600	600	600	600
Unfavorable years		400	400	400	400	400	400

161--DACKER-YUKO-WIELAND ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		DACKER	YUKO	WIELAND	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	15-30	---	---
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	---	15-25	15-25
basin wildrye	ELCI2	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	---	25-40	25-40
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-30	15-25	15-25
antelope bitterbrush	PUTR2	---	---	---	2-8	---	---
black sagebrush	ARARN	---	---	---	10-20	---	---
spiny hopsage	GRSP	---	---	---	2-5	---	---
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY025NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		800	800	800	500	800	800
Normal years		600	600	600	350	600	600
Unfavorable years		400	400	400	200	400	400

163--DACKER-CHIARA-PEEKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		DACKER	CHIARA	PEEKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	5-15	5-15	5-15	---	---
Sandberg bluegrass	POSE	2-5	2-5	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-30	15-30	15-30	15-25	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	---	---	---	25-40	25-40
globemallow	SPHAE	---	---	2-5	2-5	2-5	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	---	---	---	15-25	15-25
black sagebrush	ARARN	---	---	25-35	25-35	25-35	---	---
Range site number		025XY019NV	025XY019NV	024XY030NV	024XY030NV	024XY030NV	025XY019NV	025XY019NV
Potential production (lb/acre):								
Favorable years		800	800	500	500	500	800	800
Normal years		600	600	350	350	350	600	600
Unfavorable years		400	400	250	250	250	400	400

179--ENKO-KELK-ENKO, NEARLY LEVEL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		ENKO	KELK	ENKO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	15-30	---	---
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	---	15-25	15-25
basin wildrye	ELCI	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	---	25-40	25-40
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-30	15-25	15-25
antelope bitterbrush	PUTR2	---	---	---	2-8	---	---
black sagebrush	ARARN	---	---	---	10-20	---	---
spiny hopsage	GRSP	---	---	---	2-5	---	---
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY025NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		800	800	800	600	800	800
Normal years		600	600	600	350	600	600
Unfavorable years		400	400	400	200	400	400

171--ENKO-CHIARA-KELK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		ENKO	CHIARA	KELK	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	15-30	---	---
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	---	15-25	---
basin wildrye	ELCI2	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	---	25-40	---
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-30	15-25	---
antelope bitterbrush	PUTR2	---	---	---	2-8	---	---
black sagebrush	ARARN	---	---	---	10-20	---	---
spiny hopsage	GRSP	---	---	---	2-5	---	---
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY025NV	025XY019NV	none
Potential production (lb acre):							
Favorable years		800	800	800	500	800	
Normal years		600	600	600	350	600	
Unfavorable years		400	400	400	200	400	

174--ENKO-JERICHO ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ENKO	JERICHO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	20-30	20-30	20-30	5-15	X
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	---
Thurber needlegrass	STTH2	---	---	---	15-30	X
bluebunch wheatgrass	AGSP	---	---	---	---	X
bluegrass	POA++	---	---	---	---	X
bottlebrush squirreltail	SIHY	2-8	2-8	2-8	---	---
needleandthread	STCO4	10-20	10-20	10-20	---	---
globemallow	SPHAE	---	---	---	2-5	---
goldenweed	HAPLO2	---	---	---	---	X
phlox	PHLOX	---	---	---	---	X
Wyoming big sagebrush	ARTRW	25-35	25-35	25-35	---	---
black sagebrush	ARARN	---	---	---	25-35	X
downy rabbitbrush	CHVIP4	---	---	---	---	X
rabbitbrush	CHRYS9	2-5	2-5	2-5	---	---
Utah juniper	JUOS	---	---	---	---	X
Range site number		028BY010NV	028BY010NV	028BY010NV	024XY030NV	025XY060NV
Potential production (lb/acre):						
Favorable years		800	800	800	500	400
Normal years		600	600	600	350	275
Unfavorable years		400	400	400	250	150

175--WIFFO-NEVADOR ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		WIFFO	NEVADOR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	5-15	10-20	---	---
Sandberg bluegrass	POSE	2-5	2-5	---	---	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-30	---	15-25	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	---	---	25-40	25-40
bottlebrush squirreltail	SIHY	---	---	---	5-15	---	---
globemallow	SPHAE	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	---	---	15-25	15-25
black sagebrush	ARARN	---	---	25-35	---	---	---
bud sagebrush	ARSP5	---	---	---	10-25	---	---
shadscale	ATCO	---	---	---	40-50	---	---
Range site number		025XY019NV	025XY019NV	024XY030NV	028BY017NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years			800	500	400	800	800
Normal years			600	350	300	600	600
Unfavorable years			400	250	200	400	400

180--SONOMA-DEVILSGAIT-SONOMA, STRONGLY SALINE-SODIC ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SONOMA	DEVILSGAIT	SONOMA	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	5-10	5-10	---	5-10	---	5-15
alkali sacaton	SPAI	---	---	5-25	---	---	---
basin wildrye	ELCI2	60-70	60-70	50-60	60-70	55-65	---
creeping wildrye	ELTR3	---	---	---	---	5-15	---
inland saltgrass	DISPS2	---	---	---	---	---	2-5
mat muhly	MURI	2-8	2-8	---	2-8	---	2-5
sedge	CAREX	---	---	---	---	---	2-10
streambank wheatgrass	AGDAR	2-8	2-8	---	2-8	---	---
western wheatgrass	AGSM	---	---	---	---	5-15	---
wildrye	ELYMU	---	---	---	---	---	60-80
basin big sagebrush	ARTRT	5-10	5-10	---	5-10	10-15	---
black greasewood	SAVE4	---	---	5-15	---	2-8	---
rubber rabbitbrush	CHNA2	---	---	2-5	---	---	---
willow	SALIX	---	---	---	---	---	5-10
Range site number		025XY003NV	025XY003NV	024XY007NV	025XY003NV	024XY006NV	025XY001NV
Potential production (lb/acre):							
Favorable years		4500	4500	1900	4500	1500	3500
Normal years		3500	3500	1400	3500	1100	2500
Unfavorable years		2000	2000	800	2000	600	1800

182--SONOMA-DEVILSGAIT-SONOMA, OCCASIONALLY FLOODED ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SONOMA	DEVILSGAIT	SONOMA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	---	5-15	---	---	5-15	5-10	5-10
alkali bluegrass	POJU	5-15	---	---	---	---	---	---
alkali cordgrass	SPGR	5-10	---	---	---	---	---	---
alkali muhly	MUAS	10-20	---	---	---	---	---	---
alkali sacaton	SPAI	15-40	---	---	5-25	---	---	---
alpine timothy	PHAL2	---	---	---	---	---	5-10	---
basin wildrye	ELCI2	2-5	---	55-65	50-60	---	---	60-70
creeping wildrye	ELTR3	---	---	5-15	---	---	---	---
inland saltgrass	DISPS2	5-10	2-5	---	---	2-5	---	---
mat muhly	MURI	---	2-5	---	---	2-5	---	2-8
sedge	CAREX	---	2-10	---	---	2-10	5-10	---
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
tufted hairgrass	DECE	---	---	---	---	---	30-60	---
western wheatgrass	AGSM	---	---	5-15	---	---	---	---
wildrye	ELYMU	---	60-80	---	---	60-80	---	---
Sierra clover	TRWO	---	---	---	---	---	2-5	---
arrowgrass	TRIGL	1-3	---	---	---	---	---	---
cinquefoil	POTEN	---	---	---	---	---	2-5	---
basin big sagebrush	ARTRT	---	---	10-15	---	---	---	5-10
black greasewood	SAVE4	---	---	2-8	5-15	---	---	---
rubber rabbitbrush	CHNA2	---	---	---	2-5	---	---	---
willow	SALIX	---	5-10	---	---	5-10	---	---

Range site number	024XY009NV	025XY001NV	024XY006NV	024XY007NV	025XY001NV	025XY005NV	025XY003NV
Potential production (lb/acre):							
Favorable years	1500	3500	1500	1900	3500	3000	4500
Normal years	1000	2500	1100	1400	2500	1700	3500
Unfavorable years	700	1800	600	800	1800	1000	2000

183--SONOMA-SONOMA, OCCASIONALLY FLOODED ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		SONOMA	SONOMA	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	2-5	---	---
Nevada bluegrass	PONE3	5-15	---	---	---	5-10
alkali bluegrass	POJU	---	---	---	5-15	---
alkali cordgrass	SPGR	---	---	---	5-10	---
alkali muhly	MUAS	---	---	---	10-20	---
alkali sacaton	SPAI	---	---	---	15-40	---
basin wildrye	ELCI2	---	55-65	5-20	2-5	60-70
bottlebrush squirreltail	SIHY	---	---	2-5	---	---
creeping wildrye	ELTR3	---	5-15	---	---	---
inland saltgrass	DISPS2	2-5	---	---	5-10	---
mat muhly	MURI	2-5	---	---	---	2-8
sedge	CAREX	2-10	---	---	---	---
streambank wheatgrass	AGDAR	---	---	---	---	2-8
western wheatgrass	AGSM	---	5-15	---	---	---
wildrye	ELYMU	60-80	---	---	---	---
arrowgrass	TRIGL	---	---	---	1-3	---
globemallow	SPHAE	---	---	1-2	---	---
thelypody	THELY	---	---	2-4	---	---
basin big sagebrush	ARTRT	---	10-15	---	---	5-10
big sagebrush	ARTR2	---	---	10-25	---	---
black greasewood	SAVE4	---	2-8	20-30	---	---
spiny hopsage	GRSP	---	---	5-15	---	---
willow	SALIX	5-10	---	---	---	---

Range site number	025XY001NV	024XY006NV	024XY022NV	024XY009NV	025XY003NV
Potential production (lb/acre):					
Favorable years	3500	1500	800	1500	4500
Normal years	2500	1100	600	1000	3500
Unfavorable years	1800	600	350	700	2000

I85--SONOMA-OCALA VARIANT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		SONOMA	OCALA VARIAN	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	20-30	---	---	2-10
alkali bluegrass	POJU	5-15	---	---	---	---
alkali cordgrass	SPGR	5-10	---	---	---	---
alkali muhly	MUAS	10-20	---	---	---	---
alkali sacaton	SPAI	15-40	---	5-10	5-10	---
basin wildrye	ELCI2	2-5	---	2-5	2-5	10-20
galleta	HIJA	---	2-5	---	---	---
inland saltgrass	DISPS2	5-10	---	2-8	2-8	---
needleandthread	STCO4	---	15-25	---	---	---
sand dropseed	SPCR	---	2-5	---	---	---
wheatgrass	AGROP2	---	2-8	---	---	---
arrowgrass	TRIGL	1-3	---	---	---	---
Wyoming big sagebrush	ARTRW	---	10-20	---	---	---
big sagebrush	ARTR2	---	---	---	---	20-30
black greasewood	SAVE4	---	---	60-75	60-75	30-40
fourwing saltbush	ATCA2	---	5-15	---	---	---
rubber rabbitbrush	CHNA2	---	---	2-5	2-5	2-5
shadscale	ATCO	---	---	2-5	2-5	---
winterfat	EULA5	---	5-10	---	---	---

Range site number	024XY009NV	028AY005NV	028BY020NV	028BY020NV	028BY028NV
Potential production (lb/acre):					
Favorable years	1500	1000	500	500	800
Normal years	1000	700	300	300	600
Unfavorable years	700	400	150	150	400

186--SONDOA-IXIAN-IXIAN, STRONGLY SALINE-SODIC ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		SONDOA	IXIAN	IXIAN	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	---	---	2-8	---	2-8
alkali sacaton	SPAI	5-10	5-10	---	15-40	---
basin wildrye	ELCI2	2-5	2-5	---	40-60	---
bottlebrush squirreltail	SIHY	---	---	2-5	---	2-5
inland saltgrass	DISPS2	2-8	2-8	---	2-5	---
western wheatgrass	AGSM	---	---	5-15	2-5	5-15
black greasewood	SAVE4	60-75	60-75	---	5-15	---
rubber rabbitbrush	CHNA2	2-5	2-5	---	2-5	---
shadscale	ATCO	2-5	2-5	2-5	---	2-5
sickle saltbush	ATFA	---	---	55-65	---	55-65
winterfat	EULA5	---	---	5-15	---	5-15
Range site number		028BY020NV	028BY020NV	028BY047NV	028BY004NV	028BY047NV
Potential production (lb/acre):						
Favorable years		500	500	500	2200	500
Normal years		300	300	350	1500	350
Unfavorable years		150	150	200	800	200

187--SONOMA-DELEPLAIN-OCALA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SONOMA	DELEPLAIN	OCALA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	---	5-15	---	5-10	40-60	5-10	---
alkali sacaton	SPAI	---	---	5-25	---	---	---	---
alpine timothy	PHAL2	---	---	---	---	20-40	5-10	---
basin wildrye	ELCI2	55-65	---	50-60	60-70	2-8	---	15-20
bottlebrush squirreltail	SIHY	---	---	---	---	---	---	2-10
creeping wildrye	ELTR3	5-15	---	---	---	---	---	---
inland saltgrass	DISPS2	---	2-5	---	---	---	---	2-8
mat muhly	MURI	---	2-5	---	2-8	2-8	---	---
meadow barley	HOBR2	---	---	---	---	2-5	---	---
sedge	CAREX	---	2-10	---	---	2-8	5-10	---
streambank wheatgrass	AGDAR	---	---	---	2-8	---	---	---
tufted hairgrass	DECE	---	---	---	---	---	30-60	---
western wheatgrass	AGSM	5-15	---	---	---	---	---	---
wildrye	ELYMU	---	60-80	---	---	---	---	---
Sierra clover	TRWO	---	---	---	---	---	2-5	---
cinquefoil	POTEN	---	---	---	---	---	2-5	---
basin big sagebrush	ARTRT	10-15	---	---	5-10	---	---	---
black greasewood	SAVE4	2-8	---	5-15	---	---	---	50-65
rubber rabbitbrush	CHNA2	---	---	2-5	---	---	---	---
willow	SALIX	---	5-10	---	---	---	---	---

Range site number	024XY006NV	025XY001NV	024XY007NV	025XY003NV	025XY006NV	025XY005NV	024XY008NV
Potential production (lb/acre):							
Favorable years	1500	3500	1900	4500	2000	3000	700
Normal years	1100	2500	1400	3500	1300	1700	450
Unfavorable years	600	1800	800	2000	800	1000	300

190--FORVIC-IGDELL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		FORVIC	IGDELL	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	40-60	30-50	2-5	40-60	---	30-50
Nevada bluegrass	PONE3	2-8	---	2-5	2-8	5-10	---
Thurber needlegrass	STTH2	---	---	2-8	---	---	---
alpine timothy	PHAL2	---	---	---	---	5-10	---
basin wildrye	ELCI2	2-8	---	5-10	2-8	---	---
bluebunch wheatgrass	AGSP	5-15	15-30	50-60	5-15	---	15-30
bluegrass	POA++	---	2-10	---	---	---	2-10
sedge	CAREX	---	---	---	---	5-10	---
tufted hairgrass	DECE	---	---	---	---	30-60	---
Sierra clover	TRWO	---	---	---	---	2-5	---
cinquefoil	POTEN	---	---	---	---	2-5	---
antelope bitterbrush	PUTR2	---	2-5	2-10	---	---	2-5
basin big sagebrush	ARTRT	10-20	---	---	10-20	---	---
low sagebrush	ARAR8	---	15-25	---	---	---	15-25
mountain big sagebrush	ARVA2	---	---	5-15	---	---	---
Range site number		025XY027NV	025XY017NV	025XY009NV	025XY027NV	025XY005NV	025XY017NV
Potential production (lb/acre):							
Favorable years		1300	900	1300	1300	3000	900
Normal years		900	700	900	900	1700	700
Unfavorable years		500	400	700	500	1000	400

191--FORVIC-CHAYSON-IGDELL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		FORVIC	CHAYSON	IGDELL	Inclusion 1	Inclusion 2
Idaho fescue	FEID	40-60	40-60	30-50	2-5	---
Nevada bluegrass	PONE3	2-8	2-8	---	2-5	5-10
Thurber needlegrass	STTH2	---	---	---	2-8	---
alpine timothy	PHAL2	---	---	---	---	5-10
basin wildrye	ELCI2	2-8	2-8	---	5-10	---
bluebunch wheatgrass	AGSP	5-15	5-15	15-30	50-60	---
bluegrass	POA++	---	---	2-10	---	---
sedge	CAREX	---	---	---	---	5-10
tufted hairgrass	DECE	---	---	---	---	30-60
Sierra clover	TRWO	---	---	---	---	2-5
cinquefoil	POTEN	---	---	---	---	2-5
antelope bitterbrush	PUTR2	---	---	2-5	2-10	---
basin big sagebrush	ARTRT	10-20	10-20	---	---	---
low sagebrush	ARAR8	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---
Range site number		025XY027NV	025XY027NV	025XY017NV	025XY009NV	025XY005NV
Potential production (lb/acre):						
Favorable years		1300	1300	900	1300	3000
Normal years		900	900	700	900	1700
Unfavorable years		500	500	400	700	1000

195--CHAYSON-IGDELL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CHAYSON	IGDELL	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	40-60	30-50	---	---	40-60	30-50
Nevada bluegrass	PONE3	2-8	---	5-10	5-10	2-8	---
alpine timothy	PHAL2	---	---	---	5-10	---	---
basin wildrye	ELCI2	2-8	---	60-70	---	2-8	---
bluebunch wheatgrass	AGSP	5-15	15-30	---	---	5-15	15-30
bluegrass	POA++	---	2-10	---	---	---	2-10
mat muhly	MURI	---	---	2-8	---	---	---
sedge	CAREX	---	---	---	5-10	---	---
streambank wheatgrass	AGDAR	---	---	2-8	---	---	---
tufted hairgrass	DECE	---	---	---	30-60	---	---
Sierra clover	TRWO	---	---	---	2-5	---	---
cinquefoil	POTEN	---	---	---	2-5	---	---
antelope bitterbrush	PUTR2	---	2-5	---	---	---	2-5
basin big sagebrush	ARTRT	10-20	---	5-10	---	10-20	---
low sagebrush	ARAR8	---	15-25	---	---	---	15-25
Range site number		025XY027NV	025XY017NV	025XY003NV	025XY005NV	025XY027NV	025XY017NV
Potential production (lb/acre):							
Favorable years		1300	900	4500	3000	1300	900
Normal years		900	700	3500	1700	900	700
Unfavorable years		500	400	2000	1000	500	400

211--CROOKED CREEK, DRAINED-CROOKED CREEK-WELCH ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CROOKED CREE	CROOKED CREE	WELCH	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	5-10	5-10	5-10	40-60	5-10	40-60
alpine timothy	PHAL2	---	5-10	---	20-40	---	20-40
basin wildrye	ELCI2	60-70	---	60-70	2-8	60-70	2-8
mat muhly	MURI	2-8	---	2-8	2-8	2-8	2-8
meadow barley	HOBR2	---	---	---	2-5	---	2-5
sedge	CAREX	---	5-10	---	2-8	---	2-8
streambank wheatgrass	AGDAR	2-8	---	2-8	---	2-8	---
tufted hairgrass	DECE	---	30-60	---	---	---	---
Sierra clover	TRWO	---	2-5	---	---	---	---
cinquefoil	POTEN	---	2-5	---	---	---	---
basin big sagebrush	ARTRT	5-10	---	5-10	---	5-10	---
Range site number		025XY003NV	025XY005NV	025XY003NV	025XY006NV	025XY003NV	025XY006NV
Potential production (lb/acre):							
Favorable years		4500	3000	4500	2000	4500	2000
Normal years		3500	1700	3500	1300	3500	1300
Unfavorable years		2000	1000	2000	800	2000	800

219--SHALCLEAV-ARCIA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	ARCIA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	30-40	---	---	---	2-5
Indian ricegrass	ORHY	2-8	---	---	2-5	---	---
Nevada bluegrass	PONE3	---	2-5	---	---	5-10	2-5
Thurber needlegrass	STTH2	10-20	---	10-20	10-20	---	2-8
basin wildrye	ELCI2	---	2-10	2-8	---	60-70	5-10
bluebunch wheatgrass	AGSP	30-40	15-30	20-35	20-35	---	50-60
bluegrass	POA++	---	---	2-10	---	---	---
mat muhly	MURI	---	---	---	---	2-8	---
streambank wheatgrass	AGDAR	---	---	---	---	2-8	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---
antelope bitterbrush	PUTR2	---	5-10	2-8	---	---	2-10
basin big sagebrush	ARTRT	---	---	---	---	5-10	---
big sagebrush	ARTR2	---	---	10-20	---	---	---
black sagebrush	ARARN	20-30	---	---	25-35	---	---
mountain big sagebrush	ARVA2	---	10-20	---	---	---	5-15

Range site number	025XY057NV	025XY012NV	025XY014NV	024XY031NV	025XY003NV	025XY009NV
Potential production (lb/acre):						
Favorable years	700	1400	1000	700	4500	1300
Normal years	500	1000	800	500	3500	900
Unfavorable years	300	700	600	300	2000	700

220--SHALCLEAV-CLEAVAGE-ARCIA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	CLEAVAGE	ARCIA	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	2-5	---
Idaho fescue	FEID	---	30-50	30-40	2-5	2-10	---
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	2-5	5-10
Thurber needlegrass	STTH2	10-20	---	---	2-8	---	---
alpine timothy	PHAL2	---	---	---	---	---	5-10
basin wildrye	ELCI2	---	---	2-10	5-10	---	---
bluebunch wheatgrass	AGSP	30-40	15-30	15-30	50-60	2-5	---
bluegrass	POA++	---	2-10	---	---	---	---
mountain brome	BRCA5	---	---	---	---	5-15	---
sedge	CAREX	---	---	---	---	---	5-10
slender wheatgrass	AGTR	---	---	---	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	2-10	---
tufted hairgrass	DECE	---	---	---	---	---	30-60
Sierra clover	TRWO	---	---	---	---	---	2-5
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---
cinquefoil	POTEN	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---
Utah serviceberry	AMUT	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	2-5	5-10	2-10	1-5	---
black sagebrush	ARARN	20-30	---	---	---	---	---
common chokecherry	PRVI	---	---	---	---	1-5	---
low sagebrush	ARAR8	---	15-25	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-20	5-15	5-15	---
snowberry	SYMPH	---	---	---	---	2-15	---

Range site number	025XY057NV	025XY017NV	025XY012NV	025XY009NV	025XY004NV	025XY005NV
Potential production (lb/acre):						
Favorable years	700	900	1400	1300	2800	3000
Normal years	500	700	1000	900	1800	1700
Unfavorable years	300	400	700	700	1200	1000

221--SHALCLEAV-CLEAVAGE-SHALCLEAV, MODERATELY STEEP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	CLEAVAGE	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	---	5-30	---	2-10	2-5	---	---
Indian ricegrass	ORHY	2-8	---	2-8	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	10-20	---	10-20	---	2-8	---	---
basin wildrye	ELCI2	---	---	---	---	5-10	---	---
bluebunch wheatgrass	AGSP	30-40	---	30-40	2-5	50-60	20-30	---
bluegrass	POA++	---	5-15	---	---	---	---	---
mountain brome	BRCA5	---	---	---	5-15	---	---	---
muttongrass	POFE	---	---	---	---	---	2-8	---
needlegrass	STIPA	---	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---	---
goldenweed	HAPLO2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	---	---	1-5	2-10	---	---
black sagebrush	ARARN	20-30	---	20-30	---	---	---	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	5-15	15-25	---
sagebrush	ARTEM	---	30-35	---	---	---	---	---
snowberry	SYMPH	---	---	---	2-15	---	2-8	---
curlleaf mountainmahogany	CELE3	---	---	---	---	---	15-25	---

Range site number	025XY057NV	025XY024NV	025XY057NV	025XY004NV	025XY009NV	028BY043NV	none
Potential production (lb/acre):							
Favorable years	700	400	700	2800	1300	1700	
Normal years	500	275	500	1800	900	1300	
Unfavorable years	300	150	300	1200	700	900	

222--SHALCLEAV-COSER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	COSER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---
Idaho fescue	FEID	---	30-50	40-60	2-10	30-50	---
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	2-8	2-5	---	---
Thurber needlegrass	STTH2	10-20	---	---	---	---	15-25
basin wildrye	ELCI2	---	---	2-8	---	---	---
bluebunch wheatgrass	AGSP	30-40	15-30	5-15	2-5	15-30	20-35
bluegrass	POA++	---	2-10	---	---	2-10	---
mountain brome	BRCA5	---	---	---	5-15	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	20-30
antelope bitterbrush	PUTR2	---	2-5	---	1-5	2-5	2-5
basin big sagebrush	ARTRT	---	---	10-20	---	---	---
black sagebrush	ARARN	20-30	---	---	---	---	---
common chokecherry	PRVI	---	---	---	1-5	---	---
low sagebrush	ARAR8	---	15-25	---	---	15-25	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---	---
snowberry	SYMPH	---	---	---	2-15	---	---

Range site number	025XY057NV	025XY017NV	025XY027NV	025XY004NV	025XY017NV	025XY021NV
Potential production (lb/acre):						
Favorable years	700	900	1300	2800	900	600
Normal years	500	700	900	1800	700	400
Unfavorable years	300	400	500	1200	400	250

223--SHALCLEAV-GOLLAHER-HAPGOOD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- SHALCLEAV	GOLLAHER	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---	---
Cusick bluegrass	POCU3	---	---	---	---	---	5-10	---
Idaho fescue	FEID	---	---	2-10	X	30-50	50-65	---
Indian ricegrass	ORHY	2-8	2-8	---	---	---	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	---	40-60
Nevada bluegrass	PONE3	---	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	---	---	---	---	---
bluebunch wheatgrass	AGSP	30-40	30-40	2-5	---	15-30	2-5	---
bluegrass	POA++	---	---	---	---	2-10	---	---
horsemint giant hyssop	AGUR	---	---	---	X	---	---	---
mountain brome	BRCA5	---	---	5-15	X	---	---	---
slender wheatgrass	AGTR	---	---	5-15	X	---	---	---
spike-fescue	LEKI2	---	---	2-10	---	---	---	---
groundsel	SENEC	---	---	---	X	---	---	---
tailcup lupine	LUCA	---	---	---	---	---	---	20-40
Utah serviceberry	AMUT	---	---	1-5	X	---	---	---
antelope bitterbrush	PUTR2	---	---	1-5	---	2-5	---	---
black sagebrush	ARARN	20-30	20-30	---	---	---	---	---
common chokecherry	PRVI	---	---	1-5	---	---	---	---
low sagebrush	ARAR8	---	---	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	---	5-15	---	---	2-8	---
snowberry	SYMPH	---	---	2-15	X	---	---	---
quaking aspen	POTRT	---	---	---	X	---	---	---

Range site number	025XY057NV	025XY057NV	025XY004NV	025XY065NV	025XY017NV	025XY010NV	025XY028NV
Potential production (lb/acre):							
Favorable years	700	700	2800	800	900	1200	1700
Normal years	500	500	1800	600	700	800	1400
Unfavorable years	300	300	1200	400	400	600	1100

224--SHALCLEAV-GRALEY-ARCIA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	GRALEY	ARCIA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	15-30	30-40	---	30-50	---	---
Indian ricegrass	ORHY	2-8	---	---	2-8	---	---	2-8
Letterman needlegrass	STLE4	---	---	---	---	---	40-60	---
Nevada bluegrass	PONE3	---	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	10-20	2-5	---	10-20	---	---	10-20
basin wildrye	ELCI2	---	---	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	30-40	10-20	15-30	30-40	15-30	---	30-40
bluegrass	POA++	---	---	---	---	2-10	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
tailcup lupine	LUCA	---	---	---	---	---	20-40	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
antelope bitterbrush	PUTR2	---	20-40	5-10	---	2-5	---	---
black sagebrush	ARARN	20-30	---	---	20-30	---	---	20-30
low sagebrush	ARAR8	---	---	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	5-10	10-20	---	---	---	---
Range site number		025XY057NV	025XY007NV	025XY012NV	025XY057NV	025XY017NV	025XY028NV	025XY057NV
Potential production (lb/acre):								
Favorable years		700	2300	1400	700	900	1700	700
Normal years		500	1400	1000	500	700	1400	500
Unfavorable years		300	900	700	300	400	1100	300

225--SHALCLEAV-RODIE-LERROW ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	RODIE	LERROW	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	---	---	2-5	2-10	30-50	15-20	5-15
Indian ricegrass	ORHY	2-8	---	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	---	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	---	---
Thurber needlegrass	STTH2	10-20	5-15	2-8	---	---	2-5	---
basin wildrye	ELCI2	---	---	5-10	---	---	---	---
bluebunch wheatgrass	AGSP	30-40	25-35	50-60	2-5	15-30	10-20	2-10
bluegrass	POA++	---	---	---	---	2-10	---	---
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	---	2-10	1-5	2-5	20-40	2-8
black sagebrush	ARARN	20-30	25-35	---	---	---	---	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
low sagebrush	ARAR8	---	---	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	---	5-15	5-15	---	5-10	2-5
serviceberry	AMELA	---	---	---	---	---	---	40-50
snowberry	SYMPH	---	---	---	2-15	---	---	2-8

Range site number	025XY057NV	025XY055NV	025XY009NV	025XY004NV	025XY017NV	025X1007NV	025XY046NV
Potential production (lb/acre):							
Favorable years	700	500	1300	2800	900	2300	1800
Normal years	500	375	900	1800	700	1400	1300
Unfavorable years	300	250	700	1200	400	900	900

226--SHALCLEAV-QUOPANT-RODIE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	QUOPANT	RODIE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	2-5	---	---	---
Indian ricegrass	ORHY	2-8	2-5	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	---	---	---
Sandberg bluegrass	POSE	---	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	5-15	2-8	10-20	---	---
basin wildrye	ELCI2	---	---	---	5-10	2-8	---	---
bluebunch wheatgrass	AGSP	30-40	20-35	25-35	50-60	20-35	---	---
bluegrass	POA++	---	---	---	---	2-10	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
antelope bitterbrush	PUTR2	---	---	---	2-10	2-8	---	---
big sagebrush	ARTR2	---	---	---	---	10-20	---	---
black sagebrush	ARARN	20-30	25-35	25-35	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---	---	---
Range site number		025XY057NV	024XY031NV	025XY055NV	025XY009NV	025XY014NV	none	none
Potential production (lb/acre):								
Favorable years		700	700	500	1300	1000		
Normal years		500	500	375	900	800		
Unfavorable years		300	300	250	700	600		

227--SHALCLEAV, STEEP-SHALCLEAV-RODIE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	SHALCLEAV	RODIE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	---	---	---	2-10	40-60	---	---
Indian ricegrass	ORHY	2-8	2-8	---	---	---	2-5	---
Nevada bluegrass	PONE3	---	---	---	2-5	2-8	---	---
Sandberg bluegrass	POSE	---	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	5-15	---	---	10-20	15-25
basin wildrye	ELCI2	---	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	30-40	30-40	25-35	2-5	5-15	20-35	20-35
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike fescue	LEKI2	---	---	---	2-10	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	---	20-30
antelope bitterbrush	PUTR2	---	---	---	1-5	---	---	2-5
basin big sagebrush	ARTRT	---	---	---	---	10-20	---	---
black sagebrush	ARARN	20-30	20-30	25-35	---	---	25-35	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---	---	---
snowberry	SYMPH	---	---	---	2-15	---	---	---

Range site number	025XY057NV	025XY057NV	025XY055NV	025XY004NV	025XY027NV	024XY031NV	025XY021NV
Potential production (lb/acre):							
Favorable years	700	700	500	2800	1300	700	600
Normal years	500	500	375	1800	900	500	400
Unfavorable years	300	300	250	1200	500	300	250

228--SHALCLEAV-RODIE-SHALPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	RODIE	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-5	---
Idaho fescue	FEID	---	---	---	---	---	2-10	---
Indian ricegrass	ORHY	2-8	---	---	---	2-8	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	---	---
Thurber needlegrass	STTH2	10-20	5-15	15-25	10-20	10-20	---	---
basin wildrye	ELCI2	---	---	---	2-8	---	---	---
bluebunch wheatgrass	AGSP	30-40	25-35	20-35	20-35	30-40	2-5	---
bluegrass	POA++	---	---	---	2-10	---	---	---
mountain brome	BRCA5	---	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	---	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	---	2-10	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5	---
Wyoming big sagebrush	ARTRW	---	---	20-30	---	---	---	---
antelope bitterbrush	PUTR2	---	---	2-5	2-8	---	1-5	---
big sagebrush	ARTR2	---	---	---	10-20	---	---	---
black sagebrush	ARARN	20-30	25-35	---	---	20-30	---	---
common chokecherry	PRVI	---	---	---	---	---	1-5	---
mountain big sagebrush	ARVA2	---	---	---	---	---	5-15	---
snowberry	SYMPH	---	---	---	---	---	2-15	---

Range site number	025XY057NV	025XY055NV	025XY021NV	025XY014NV	025XY057NV	025XY004NV	none
Potential production (lb/acre):							
Favorable years	700	500	600	1000	700	2800	
Normal years	500	375	400	800	500	1800	
Unfavorable years	300	250	250	600	300	1200	

229--SHALCLEAV-SHALPER-CLEAVAGE ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	SHALPER	CLEAVAGE	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	---	2-5
Idaho fescue	FEID	---	---	30-50	---	2-5	2-10
Indian ricegrass	ORHY	2-8	---	---	X	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	10-20	15-25	---	X	2-8	---
basin wildrye	ELCI2	---	---	---	---	5-10	---
bluebunch wheatgrass	AGSP	30-40	20-35	15-30	X	50-60	2-5
bluegrass	POA**	---	---	2-10	X	---	---
mountain brome	BRCA5	---	---	---	---	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	2-10
goldenweed	HAPL02	---	---	---	X	---	---
phlox	PHLOX	---	---	---	X	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5
Wyoming big sagebrush	ARTRW	---	20-30	---	---	---	---
antelope bitterbrush	PUTR2	---	2-5	2-5	---	2-10	1-5
black sagebrush	ARARN	20-30	---	---	X	---	---
common chokecherry	PRVI	---	---	---	---	---	1-5
downy rabbitbrush	CHVIP4	---	---	---	X	---	---
low sagebrush	ARAR8	---	---	15-25	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	5-15	5-15
snowberry	SYMPH	---	---	---	---	---	2-15
Utah juniper	JUOS	---	---	---	X	---	---

Range site number	025XY057NV	025XY021NV	025XY017NV	025XY060NV	025XY039NV	025XY004NV
Potential production (lb acre):						
Favorable years	700	600	900	400	1300	2800
Normal years	500	400	700	275	900	1800
Unfavorable years	300	250	400	150	700	1200

232--SHALCLEAV-QUAR2 ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	QUAR2	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	2-5	40-60	30-40
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	2-8	2-5
Sandberg bluegrass	POSE	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	5-15	2-8	---	---
basin wildrye	ELCI2	---	2-8	---	5-10	2-8	2-10
bluebunch wheatgrass	AGSP	30-40	20-35	25-35	50-60	5-15	15-30
bluegrass	POA++	---	2-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	2-5
antelope bitterbrush	PUTR2	---	2-8	---	2-10	---	5-10
basin big sagebrush	ARTRT	---	---	---	---	10-20	---
big sagebrush	ARTR2	---	10-20	---	---	---	---
black sagebrush	ARARN	20-30	---	25-35	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---	10-20
Range site number		025XY057NV	025XY014NV	025XY055NV	025XY009NV	025XY027NV	025XY012NV
Potential production (lb/acre):							
Favorable years		700	1000	500	1300	1300	1400
Normal years		500	800	375	900	900	1000
Unfavorable years		300	600	250	700	500	700

235--SHALCLEAV-SHALPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	---	5-30
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Thurber needlegrass	STTH2	10-20	15-25	---	10-20	15-25	---
basin wildrye	ELCI2	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	30-40	20-35	---	20-35	20-35	---
bluegrass	POA++	---	---	---	2-10	---	5-15
goldenweed	HAPLO2	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	20-30	---	---	20-30	---
antelope bitterbrush	PUTR2	---	2-5	---	2-8	2-5	---
big sagebrush	ARTR2	---	---	---	10-20	---	---
black sagebrush	ARARN	20-30	---	---	---	---	---
sagebrush	ARTEM	---	---	---	---	---	30-35
Range site number		025XY057NV	025XY021NV	none	025XY014NV	025XY021NV	025XY024NV
Potential production (lb/acre):							
Favorable years		700	600		1000	600	400
Normal years		500	400		800	400	275
Unfavorable years		300	250		600	250	150

236--SHALCLEAV-MCIVEY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	MCIVEY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	30-40	---	---	---	15-30
Indian ricegrass	ORHY	2-8	---	---	5-15	---	---
Nevada bluegrass	PONE3	---	2-5	---	---	---	---
Sandberg bluegrass	POSE	---	---	2-5	10-15	---	---
Thurber needlegrass	STTH2	10-20	---	5-15	---	---	2-5
Webber needlegrass	STWE	---	---	---	2-5	---	---
basin wildrye	ELCI2	---	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	30-40	15-30	25-35	---	---	10-20
bottlebrush squirreltail	SIHY	---	---	---	2-5	---	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---
eriogonum	ERIOG	---	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	---	2-5	---	---
phlox	PHLOX	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	2-5	2-5	---	---	---
antelope bitterbrush	PUTR2	---	5-15	---	---	---	20-40
black sagebrush	ARARN	20-30	---	25-35	30-40	---	---
bud sagebrush	ARSP5	---	---	---	5-10	---	---
mountain big sagebrush	ARVA2	---	10-20	---	---	---	5-10
Range site number		025XY057NV	025XY012NV	025XY055NV	025XY026NV	none	025XY007NV
Potential production (lb/acre):							
Favorable years		700	1400	500	200		2300
Normal years		500	1000	375	100		1400
Unfavorable years		300	700	250	75		900

237--SHALCLEAV-GOLLAHER-KEMAN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SHALCLEAV	GOLLAHER	KEMAN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	5-15	---	---	---	---
Idaho fescue	FEID	---	---	25-40	30-40	---	---	---
Indian ricegrass	ORHY	2-8	2-8	---	---	2-8	2-5	5-15
Nevada bluegrass	PONE3	---	---	2-8	2-5	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	---	---	10-20	10-20	15-30
basin wildrye	ELCI2	---	---	---	2-10	---	---	---
bluebunch wheatgrass	AGSP	30-40	30-40	5-15	15-30	30-40	20-35	---
mountain brome	BRCA5	---	---	5-15	---	---	---	---
slender wheatgrass	AGTR	---	---	5-15	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---	---
globemallow	SPHAE	---	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---	---
antelope bitterbrush	PUTR2	---	---	2-8	5-10	---	---	---
black sagebrush	ARAR8	20-30	20-30	---	---	20-30	25-35	25-35
mountain big sagebrush	ARVA2	---	---	10-15	10-20	---	---	---
snowberry	SYMPH	---	---	2-5	---	---	---	---

Range site number	025XY057NV	025XY057NV	025XY056NV	025XY012NV	025XY057NV	024XY031NV	024XY030NV
Potential production (lb./acre):							
Favorable years	700	700	1500	1400	700	700	500
Normal years	500	500	1100	1000	500	500	350
Unfavorable years	300	300	700	700	300	300	250

238--SHALCLEAV-HAPGOOD-ARCIA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	HAPGOOD	ARCIA	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	2-5	---	---	---	---
Idaho fescue	FEID	---	2-10	30-40	---	---	2-5
Indian ricegrass	ORHY	2-8	---	---	2-8	---	---
Letterman needlegrass	STLE4	---	---	---	---	40-60	---
Nevada bluegrass	PONE3	---	2-5	2-5	---	---	2-5
Thurber needlegrass	STTH2	10-20	---	---	10-20	---	2-8
basin wildrye	ELCI2	---	---	2-10	---	---	5-10
bluebunch wheatgrass	AGSP	30-40	2-5	15-30	30-40	---	50-60
mountain brome	BRCA5	---	5-15	---	---	---	---
slender wheatgrass	AGTR	---	5-15	---	---	---	---
spike-fescue	LEKI2	---	2-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---
tailcup lupine	LUCA	---	---	---	---	20-40	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---
antelope bitterbrush	PUTR2	---	1-5	5-10	---	---	2-10
black sagebrush	ARARN	20-30	---	---	20-30	---	---
common chokecherry	PRVI	---	1-5	---	---	---	---
mountain big sagebrush	ARVA2	---	5-15	10-20	---	---	5-15
snowberry	SYMPH	---	2-15	---	---	---	---
Range site number		025XY057NV	025XY004NV	025XY012NV	025XY057NV	025XY028NV	025XY009NV
Potential production (lb/acre):							
Favorable years		700	2800	1400	700	1700	1300
Normal years		500	1800	1000	500	1400	900
Unfavorable years		300	1200	700	300	1100	700

239--SHALCLEAV-TWEENER-ROCK OUTCROP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHALCLEAV	TWEENER	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	2-5	---
Idaho fescue	FEID	---	15-30	---	5-30	2-10	40-60
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	2-8
Thurber needlegrass	STTH2	10-20	2-5	---	---	---	---
basin wildrye	ELCI2	---	---	---	---	---	2-8
bluebunch wheatgrass	AGSP	30-40	10-20	---	---	2-5	5-15
bluegrass	POA++	---	---	---	5-15	---	---
mountain brome	BRCA5	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	2-10	---
goldenweed	HAPLO2	---	---	---	2-5	---	---
Utah serviceberry	AMUT	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	20-40	---	---	1-5	---
basin big sagebrush	ARTRT	---	---	---	---	---	10-20
black sagebrush	ARARN	20-30	---	---	---	---	---
common chokecherry	PRVI	---	---	---	---	1-5	---
mountain big sagebrush	ARVA2	---	5-10	---	---	5-15	---
sagebrush	ARTEM	---	---	---	30-35	---	---
snowberry	SYMPH	---	---	---	---	2-15	---

Range site number	025XY057NV	025XY007NV	none	025XY024NV	025XY004NV	025XY027NV
Potential production (lb/acre):						
Favorable years	700	2300		400	2800	1300
Normal years	500	1400		275	1800	900
Unfavorable years	300	900		150	1200	500

240--GUMBLE-SHALPER-IZAR ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GUMBLE	SHALPER	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	5-15	2-5	X	2-8	---
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTH2	15-25	15-25	15-30	10-20	X	10-20	10-20
basin wildrye	ELCI2	---	---	---	---	---	---	2-8
bluebunch wheatgrass	AGSP	25-40	20-35	---	20-35	X	30-40	20-35
bluegrass	POA++	---	---	---	---	X	---	2-10
globemallow	SPHAE	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	X	---	---
phlox	PHLOX	---	---	---	---	X	---	---
Wyoming big sagebrush	ARTRW	15-25	20-30	---	---	---	---	---
antelope bitterbrush	PUTR2	---	2-5	---	---	---	---	2-8
big sagebrush	ARTR2	---	---	---	---	---	---	10-20
black sagebrush	ARARN	---	---	25-35	25-35	X	20-30	---
downy rabbitbrush	CHVIP4	---	---	---	---	X	---	---
Utah juniper	JUOS	---	---	---	---	X	---	---

Range site number	025XY019NV	025XY021NV	024XY030NV	024XY031NV	025XY060NV	025XY057NV	025XY014NV
Potential production (lb/acre):							
Favorable years	800	600	500	700	400	760	1000
Normal years	600	400	350	500	275	500	800
Unfavorable years	400	250	250	300	150	300	600

250--CHUSKA-CHUSKA, STRONGLY SLOPING-SOUGHE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions Soil name or Inclusion number--					
		CHUSKA	CHUSKA	SOUGHE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	15-30	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	5-10
Sandberg bluegrass	POSE	2-5	2-5	---	---	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	5-15	---	15-25	---
basin wildrye	ELCI2	---	---	2-5	2-8	---	60-70
bluebunch wheatgrass	AGSP	25-40	25-40	60-80	---	25-40	---
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---
mat muhly	MURI	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8
Wyoming big sagebrush	ARTRW	15-25	15-25	5-15	15-30	15-25	---
antelope bitterbrush	PUTR2	---	---	1-5	2-8	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	5-10
black sagebrush	ARARN	---	---	---	10-20	---	---
spiny hopsage	GRSP	---	---	---	2-5	---	---

Range site number	025XY019NV	025XY019NV	025XY015NV	025XY025NV	025XY019NV	025XY003NV
Potential production (lb/acre):						
Favorable years	800	800	1000	500	800	4500
Normal years	600	600	700	350	600	3500
Unfavorable years	400	400	500	200	400	2000

251--CHUSKA-DEWAR-ENKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CHUSKA	DEWAR	ENKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	---	15-30	15-30	---
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	---	---	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	5-15	---	---	15-25
basin wildrye	ELCI2	---	---	---	2-5	5-10	2-8	---
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	60-80	---	---	25-40
bottlebrush squirreltail	SIHY	---	---	---	---	---	5-10	---
needleandthread	STCO4	---	---	---	---	30-40	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	5-15	---	15-30	15-25
antelope bitterbrush	PUTR2	---	---	---	1-5	---	2-8	---
big sagebrush	ARTR2	---	---	---	---	15-25	---	---
black sagebrush	ARARN	---	---	---	---	---	10-20	---
spiny hopsage	GRSP	---	---	---	---	1-5	2-5	---
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY015NV	024XY017NV	025XY025NV	025XY019NV
Potential production (lb/acre):								
Favorable years		800	800	800	1000	900	500	800
Normal years		600	600	600	700	700	350	600
Unfavorable years		400	400	400	500	500	200	400

252--CHUSKA-JACKPOT-SOUGHE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CHUSKA	JACKPOT	SOUGHE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	15-30	---	---	---	---	---
Sandberg bluegrass	POSE	2-5	---	2-5	2-5	2-5	---	---
Thurber needlegrass	STTH2	15-25	---	15-25	15-25	15-25	5-15	---
basin wildrye	ELCI2	---	5-10	---	---	---	2-5	---
bluebunch wheatgrass	AGSP	25-40	---	25-40	25-40	25-40	60-80	---
needleandthread	STCO4	---	30-40	---	---	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	15-25	15-25	15-25	5-15	---
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5	---
big sagebrush	ARTR2	---	15-25	---	---	---	---	---
spiny hopsage	GRSP	---	1-5	---	---	---	---	---
Range site number		025XY019NV	024XY017NV	025XY019NV	025XY019NV	025XY019NV	025XY015NV	none
Potential production (lb/acre):								
Favorable years		800	900	800	800	800	1000	
Normal years		600	700	600	600	600	700	
Unfavorable years		400	500	400	400	400	500	

253--CHUSKA-JACKPOT-DEWAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CHUSKA	JACKPOT	DEWAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	15-30	---	---	---	---	15-30
Sandberg bluegrass	POSE	2-5	---	2-5	2-5	---	2-5	---
Thurber needlegrass	STTH2	15-25	---	15-25	15-25	5-15	15-25	---
basin wildrye	ELCI2	---	5-10	---	---	2-5	---	2-8
bluebunch wheatgrass	AGSP	25-40	---	25-40	25-40	60-80	25-40	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	---	5-10
needleandthread	STCO4	---	30-40	---	---	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	15-25	15-25	5-15	15-25	15-30
antelope bitterbrush	PUTR2	---	---	---	---	1-5	---	2-8
big sagebrush	ARTR2	---	15-25	---	---	---	---	---
black sagebrush	ARARN	---	---	---	---	---	---	10-20
spiny hopsage	GRSP	---	1-5	---	---	---	---	2-5
Range site number		025XY019NV	024XY017NV	025XY019NV	025XY019NV	025XY015NV	025XY019NV	025XY025NV
Potential production (lb/acre):								
Favorable years		800	900	800	800	1000	800	500
Normal years		600	700	600	600	700	600	350
Unfavorable years		400	500	400	400	500	400	200

260--BANCY-HECKISON ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		BANCY	HECKISON	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	5-10
Thurber needlegrass	STTH2	---	10-20	5-15	5-15	5-15	---
basin wildrye	ELCI2	---	2-8	2-5	2-5	2-5	60-70
bluebunch wheatgrass	AGSP	15-30	20-35	60-80	60-80	60-80	---
bluegrass	POA++	2-10	2-10	---	---	---	---
mat muhly	MURI	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8
Wyoming big sagebrush	ARTRW	---	---	5-15	5-15	5-15	---
antelope bitterbrush	PUTR2	2-5	2-8	1-5	1-5	1-5	---
basin big sagebrush	ARTRT	---	---	---	---	---	5-10
big sagebrush	ARTR2	---	10-20	---	---	---	---
low sagebrush	ARAR8	15-25	---	---	---	---	---
Range site number		025XY017NV	025XY014NV	025XY015NV	025XY015NV	025XY015NV	025XY003NV
Potential production (lb/acre):							
Favorable years		900	1000	1000	1000	1000	4500
Normal years		700	800	700	700	700	3500
Unfavorable years		400	600	500	500	500	2000

270--CAMEEK-BILBO-CAMEEK, GENTLY SLOPING ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CAMEEK	BILBO	CAMEEK	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	30-50	40-60	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-8	---
Thurber needlegrass	STTH2	10-20	5-15	10-20	10-20	---	---	---
basin wildrye	ELCI2	2-8	2-5	2-8	2-8	---	2-8	---
bluebunch wheatgrass	AGSP	20-35	60-80	20-35	20-35	15-30	5-15	---
bluegrass	POA++	2-10	---	2-10	2-10	2-10	---	---
Wyoming big sagebrush	ARTRW	---	5-15	---	---	---	---	---
antelope bitterbrush	PUTR2	2-8	1-5	2-8	2-8	2-5	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	10-20	---
big sagebrush	ARTR2	10-20	---	10-20	10-20	---	---	---
low sagebrush	ARAR8	---	---	---	---	15-25	---	---
Range site number		025XY014NV	025XY015NV	025XY014NV	025XY014NV	025XY017NV	025XY027NV	none
Potential production (lb/acre):								
Favorable years		1000	1000	1000	1000	900	1300	
Normal years		800	700	800	800	700	900	
Unfavorable years		600	500	600	600	400	500	

280--QUARZ-SHALPER-SHALCLEAV ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		QUARZ	SHALPER	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	2-5	---	---	---	30-40	15-30	30-40
Indian ricegrass	ORHY	---	---	2-8	2-8	---	---	---
Nevada bluegrass	PONE3	2-5	---	---	---	2-5	---	2-5
Thurber needlegrass	STTH2	2-8	15-25	10-20	10-20	---	2-5	---
basin wildrye	ELCI2	5-10	---	---	---	2-10	---	2-10
bluebunch wheatgrass	AGSP	50-60	20-35	30-40	30-40	15-30	10-20	15-30
arrowleaf balsamroot	BASA3	---	---	---	---	2-5	---	2-5
tapertip hawksbeard	CRAC2	---	---	---	---	2-5	---	2-5
Wyoming big sagebrush	ARTRW	---	20-30	---	---	---	---	---
antelope bitterbrush	PUTR2	2-10	2-5	---	---	5-10	20-40	5-10
black sagebrush	ARARN	---	---	20-30	20-30	---	---	---
mountain big sagebrush	ARVA2	5-15	---	---	---	10-20	5-10	10-20
Range site number		025XY009NV	025XY021NV	025XY057NV	025XY057NV	025XY012NV	025XY007NV	025XY012NV
Potential production (lb/acre):								
Favorable years		1300	600	700	700	1400	2300	1400
Normal years		900	400	500	500	1000	1400	1000
Unfavorable years		700	250	300	300	700	900	700

281--QUARZ-COTANT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		QUARZ	COTANT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	30-50	40-60	---	2-5	---
Nevada bluegrass	PONE3	---	---	2-8	---	2-5	---
Thurber needlegrass	STTH2	10-20	---	---	15-25	2-8	10-20
basin wildrye	ELCI2	2-8	---	2-8	---	5-10	2-8
bluebunch wheatgrass	AGSP	20-35	15-30	5-15	20-35	50-60	20-35
bluegrass	POA++	2-10	2-10	---	---	---	2-10
Wyoming big sagebrush	ARTRW	---	---	---	20-30	---	---
antelope bitterbrush	PUTR2	2-8	2-5	---	2-5	2-10	2-8
basin big sagebrush	ARTRT	---	---	10-20	---	---	---
big sagebrush	ARTR2	10-20	---	---	---	---	10-20
low sagebrush	ARAR8	---	15-25	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	5-15	---
Range site number		025XY014NV	025XY017NV	025XY027NV	025XY021NV	025XY009NV	025XY014NV
Potential production (lb/acre):							
Favorable years		1000	900	1300	600	1300	1000
Normal years		800	700	900	400	900	800
Unfavorable years		600	400	500	250	700	600

282--QUARZ, STEEP-QUARZ-ARCIA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		QUARZ	QUARZ	ARCIA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	2-5	---	30-40	---	---	30-50	---
Nevada bluegrass	PONE3	2-5	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	2-8	10-20	---	15-25	15-25	---	---
basin wildrye	ELCI2	5-10	2-8	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	50-60	20-35	15-30	20-35	20-35	15-30	---
bluegrass	POA++	---	2-10	---	---	---	2-10	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	20-30	20-30	---	---
antelope bitterbrush	PUTR2	2-10	2-8	5-10	2-5	2-5	2-5	---
big sagebrush	ARTR2	---	10-20	---	---	---	---	---
low sagebrush	ARAR8	---	---	---	---	---	15-25	---
mountain big sagebrush	ARVA2	5-15	---	10-20	---	---	---	---

Range site number	025XY009NV	025XY014NV	025XY012NV	025XY021NV	025XY021NV	025XY017NV	none
Potential production (lb/acre):							
Favorable years	1300	1000	1400	600	600	900	
Normal years	900	800	1000	400	400	700	
Unfavorable years	700	600	700	250	250	400	

290--GOCHEA-VADAHO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		GOCHEA	VADAHO	Inclusion 1	Inclusion 2
Nevada bluegrass	PONE3	---	---	---	5-10
Thurber needlegrass	STTH2	10-20	10-20	10-20	---
basin wildrye	ELCI2	2-8	2-8	2-8	60-70
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	---
bluegrass	POA++	2-10	2-10	2-10	---
mat muhly	MURI	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	2-8
antelope bitterbrush	PUTR2	2-8	2-8	2-8	---
basin big sagebrush	ARTRT	---	---	---	5-10
big sagebrush	ARTR2	10-20	10-20	10-20	---
Range site number		025XY014NV	025XY014NV	025XY014NV	025XY003NV
Potential production (lb/acre):					
Favorable years		1000	1000	1000	4500
Normal years		800	800	800	3500
Unfavorable years		600	600	600	2000

291--GOCHEA-SIMON ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GOCHEA	SIMON	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	---	---	---	5-10	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	10-20	10-20	10-20	---	15-25	15-25
basin wildrye	ELCI2	2-8	2-8	2-8	60-70	---	---
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	---	25-40	25-40
bluegrass	POA++	2-10	2-10	2-10	---	---	---
mat muhly	MURI	---	---	---	2-8	---	---
streambank wheatgrass	AGDAR	---	---	---	2-8	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	15-25	15-25
antelope bitterbrush	PUTR2	2-8	2-8	2-8	---	---	---
basin big sagebrush	ARTRT	---	---	---	5-10	---	---
big sagebrush	ARTR2	10-20	10-20	10-20	---	---	---
Range site number		025XY014NV	025XY014NV	025XY014NV	025XY003NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		1000	1000	1000	4500	800	800
Normal years		800	800	800	3500	600	600
Unfavorable years		600	600	600	2000	400	400

300--OLA, STEEP-EARCREE-OLA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		OLA	EARCREE	OLA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-5	---	---	---	---	---
Idaho fescue	FEID	30-40	2-10	30-40	---	---	---	5-30
Nevada bluegrass	PONE3	2-5	2-5	2-5	---	5-10	---	---
Thurber needlegrass	STTH2	---	---	---	---	---	5-10	---
alpine timothy	PHAL2	---	---	---	---	5-10	---	---
basin wildrye	ELCI2	2-10	---	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	15-30	2-5	15-30	---	---	10-20	---
bluegrass	POA++	---	---	---	---	---	---	5-15
mountain brome	BRCA5	---	5-15	---	---	---	---	---
sedge	CAREX	---	---	---	---	5-10	---	---
slender wheatgrass	AGTR	---	5-15	---	---	---	---	---
spike-fescue	LEKI2	---	2-10	---	---	---	---	---
tufted hairgrass	DECE	---	---	---	---	30-60	---	---
Sierra clover	TRWO	---	---	---	---	2-5	---	---
arrowleaf balsamroot	BASA3	2-5	---	2-5	---	---	---	---
cinquefoil	POTEN	---	---	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	2-5	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---	---
antelope bitterbrush	PUTR2	5-10	1-5	5-10	---	---	5-15	---
common chokecherry	PRVI	---	1-5	---	---	---	---	---
mountain big sagebrush	ARVA2	10-20	5-15	10-20	---	---	5-15	---
oceanspray	HOLOD	---	---	---	---	---	15-30	---
sagebrush	ARTEM	---	---	---	---	---	---	30-35
snowberry	SYMPH	---	2-15	---	---	---	---	---
Range site number		025XY012NV	025XY004NV	025XY012NV	none	025XY005NV	025XY058NV	025XY024NV
Potential production (lb/acre):								
Favorable years		1400	2800	1400		3000	700	400
Normal years		1000	1800	1000		1700	500	275
Unfavorable years		700	1200	700		1000	350	150

310--AGORT-XICA, SANDY LOAM-XICA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		AGORT	XICA	XICA	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	15-30	5-30	---	---	---	---
Indian ricegrass	ORHY	---	---	2-8	---	---	---
Thurber needlegrass	STTH2	2-5	---	10-20	5-10	5-10	---
bluebunch wheatgrass	AGSP	10-20	---	30-40	10-20	10-20	---
bluegrass	POA++	---	5-15	---	---	---	---
goldenweed	HAPLO2	---	2-5	---	---	---	---
antelope bitterbrush	PUTR2	20-40	---	---	5-15	5-15	---
black sagebrush	ARARN	---	---	20-30	---	---	---
mountain big sagebrush	ARVA2	5-10	---	---	5-15	5-15	---
oceanspray	HOLOD	---	---	---	15-30	15-30	---
sagebrush	ARTEM	---	30-35	---	---	---	---
Range site number		025XY007NV	025XY024NV	025XY057NV	025XY058NV	025XY058NV	none
Potential production (lb/acre):							
Favorable years		2300	400	700	700	700	
Normal years		1400	275	500	500	500	
Unfavorable years		900	150	300	350	350	

320--HUSSELL-NEVADOR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HUSSELL	NEVADOR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	15-30	---	15-30	15-30	2-5
Sandberg bluegrass	POSE	---	2-5	---	---	---
Thurber needlegrass	STTH2	---	15-25	---	---	---
basin wildrye	ELCI2	5-10	---	5-10	5-10	5-20
bluebunch wheatgrass	AGSP	---	25-40	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	2-5
needleandthread	STCO4	30-40	---	30-40	30-40	---
globemallow	SPHAE	---	---	---	---	1-2
thelypody	THELY	---	---	---	---	2-4
Wyoming big sagebrush	ARTRW	---	15-25	---	---	---
big sagebrush	ARTR2	15-25	---	15-25	15-25	10-25
black greasewood	SAVE4	---	---	---	---	20-30
spiny hopsage	GRSP	1-5	---	1-5	1-5	5-15
Range site number		024XY017NV	025XY019NV	024XY017NV	024XY017NV	024XY022NV
Potential production (lb/acre):						
Favorable years		900	800	900	900	800
Normal years		700	600	700	700	600
Unfavorable years		500	400	500	500	350

340--XIPE-VALMY-OCALA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		XIPE	VALMY	OCALA	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	2-5	---	---	---	---
Nevada bluegrass	PONE3	5-15	---	---	---	5-10	---
alkali sacaton	SPAI	---	---	5-25	---	---	---
basin wildrye	ELCI2	---	5-20	50-60	55-65	60-70	15-20
bottlebrush squirreltail	SIHY	---	2-5	---	---	---	2-10
creeping wildrye	ELTR3	---	---	---	5-15	---	---
inland saltgrass	DISPS2	2-5	---	---	---	---	2-8
mat muhly	MURI	2-5	---	---	---	2-8	---
sedge	CAREX	2-10	---	---	---	---	---
streambank wheatgrass	AGDAR	---	---	---	---	2-8	---
western wheatgrass	AGSM	---	---	---	5-15	---	---
wildrye	ELYMU	60-80	---	---	---	---	---
globemallow	SPHAE	---	1-2	---	---	---	---
thelypody	THELY	---	2-4	---	---	---	---
basin big sagebrush	ARTRT	---	---	---	10-15	5-10	---
big sagebrush	ARTR2	---	10-25	---	---	---	---
black greasewood	SAVE4	---	20-30	5-15	2-8	---	50-65
rubber rabbitbrush	CHNA2	---	---	2-5	---	---	---
spiny hopsage	GRSP	---	5-15	---	---	---	---
willow	SALIX	5-10	---	---	---	---	---

Range site number	025XY001NV	024XY022NV	024XY007NV	024XY006NV	025XY003NV	024XY008NV
Potential production (lb/acre):						
Favorable years	3500	800	1900	1500	4500	700
Normal years	2500	600	1400	1100	3500	450
Unfavorable years	1800	350	800	600	2000	300

341--XIPE-BATAN-DEVILSGAIT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		XIPE	BATAN	DEVILSGAIT	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	---	2-5	---	---	---
Nevada bluegrass	PONE3	---	---	5-10	5-15	---
basin wildrye	ELCI2	55-65	5-20	60-70	---	55-65
bottlebrush squirreltail	SIHY	---	2-5	---	---	---
creeping wildrye	ELTR3	5-15	---	---	---	5-15
inland saltgrass	DISPS2	---	---	---	2-5	---
mat muhly	MURI	---	---	2-8	2-5	---
sedge	CAREX	---	---	---	2-10	---
streambank wheatgrass	AGDAR	---	---	2-8	---	---
western wheatgrass	AGSM	5-15	---	---	---	5-15
wildrye	ELYMU	---	---	---	60-80	---
globemallow	SPHAE	---	1-2	---	---	---
thelypody	THELY	---	2-4	---	---	---
basin big sagebrush	ARTRT	10-15	---	5-10	---	10-15
big sagebrush	ARTR2	---	10-25	---	---	---
black greasewood	SAVE4	2-8	20-30	---	---	2-8
spiny hopsage	GRSP	---	5-15	---	---	---
willow	SALIX	---	---	---	5-10	---
Range site number		024XY006NV	024XY022NV	025XY003NV	025XY001NV	024XY006NV
Potential production (lb/acre):						
Favorable years		1500	800	4500	3500	1500
Normal years		1100	600	3500	2500	1100
Unfavorable years		600	350	2000	1800	600

380--ELHINA GRAVELLY LOAM, 2 TO 8 PERCENT SLOPES

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ELHINA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	30-50	40-60
Indian ricegrass	ORHY	2-5	5-15	---	---	---
Nevada bluegrass	PONE3	---	---	5-10	---	2-8
Thurber needlegrass	STTH2	10-20	15-30	---	---	---
basin wildrye	ELCI2	---	---	60-70	---	2-8
bluebunch wheatgrass	AGSP	20-35	---	---	15-30	5-15
bluegrass	POA++	---	---	---	2-10	---
mat muhly	MURI	---	---	2-8	---	---
streambank wheatgrass	AGDAR	---	---	2-8	---	---
globemallow	SPHAE	---	2-5	---	---	---
antelope bitterbrush	PUTR2	---	---	---	2-5	---
basin big sagebrush	ARTRT	---	---	5-10	---	10-20
black sagebrush	ARARN	25-35	25-35	---	---	---
low sagebrush	ARAR8	---	---	---	15-25	---
Range site number		024XY031NV	024XY030NV	025XY003NV	025XY017NV	025XY027NV
Potential production (lb/acre):						
Favorable years		700	500	4500	900	1300
Normal years		500	350	3500	700	900
Unfavorable years		300	250	2000	400	500

400--ZAPA, MODERATELY STEEP-ZAPA-CHUSKA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ZAPA	ZAPA	CHUSKA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	---	5-15	5-15	15-30
Sandberg bluegrass	POSE	---	---	2-5	2-5	---	---	---
Thurber needlegrass	STTH2	15-30	15-30	15-25	15-25	15-30	15-30	---
basin wildrye	ELCI2	---	---	---	---	---	---	5-10
bluebunch wheatgrass	AGSP	---	---	25-40	25-40	---	---	---
needleandthread	STCO4	---	---	---	---	---	---	30-40
globemallow	SPHAE	2-5	2-5	---	---	2-5	2-5	---
Wyoming big sagebrush	ARTRW	---	---	15-25	15-25	---	---	---
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	25-35	25-35	---	---	25-35	25-35	---
spiny hopsage	GRSP	---	---	---	---	---	---	1-5
Range site number		024XY030NV	024XY030NV	025XY019NV	025XY019NV	024XY030NV	024XY030NV	024XY017NV
Potential production (lb/acre):								
Favorable years		500	500	800	800	500	500	900
Normal years		350	350	600	600	350	350	700
Unfavorable years		250	250	400	400	250	250	500

401--ZAPA-IZAR-SHALPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ZAPA	IZAR	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	---	---	30-40
Indian ricegrass	ORHY	5-15	5-15	---	5-15	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	---	2-5
Sandberg bluegrass	POSE	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	15-30	15-30	15-25	15-30	5-15	15-25	---
basin wildrye	ELCI2	---	---	---	---	2-5	---	2-10
bluebunch wheatgrass	AGSP	---	---	20-35	---	60-80	25-40	15-30
arrowleaf balsamroot	BASA3	---	---	---	---	---	---	2-5
globemallow	SPHAE	2-5	2-5	---	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	20-30	---	5-15	15-25	---
antelope bitterbrush	PUTR2	---	---	2-5	---	1-5	---	5-10
black sagebrush	ARARN	25-35	25-35	---	25-35	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	---	10-20

Range site number	024XY030NV	024XY030NV	025XY021NV	024XY030NV	025XY015NV	025XY019NV	025XY012NV
Potential production (lb/acre):							
Favorable years	500	500	600	500	1000	800	1400
Normal years	350	350	400	350	700	600	1000
Unfavorable years	250	250	250	250	500	400	700

403--ZAPA-PUETT-SHALPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ZAPA	PUETT	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	---	30-40	---
Indian ricegrass	ORHY	5-15	15-30	---	5-15	---	---	15-30
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	15-30	---	15-25	15-30	5-15	---	---
basin wildrye	ELCI2	---	2-8	---	---	2-5	2-10	5-10
bluebunch wheatgrass	AGSP	---	---	20-35	---	60-80	15-30	---
bottlebrush squirreltail	SIHY	---	5-10	---	---	---	---	---
needleandthread	STCO4	---	---	---	---	---	---	30-40
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5	---
globemallow	SPHAE	2-5	---	---	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	15-30	20-30	---	5-15	---	---
antelope bitterbrush	PUTR2	---	2-8	2-5	---	1-5	5-10	---
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	25-35	10-20	---	25-35	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20	---
spiny hopsage	GRSP	---	2-5	---	---	---	---	1-5

Range site number	024XY030NV	025XY025NV	025XY021NV	024XY030NV	025XY015NV	025XY012NV	024XY017NV
Potential production (lb/acre):							
Favorable years	500	500	600	500	1000	1400	900
Normal years	350	350	400	350	700	1000	700
Unfavorable years	250	200	250	250	500	700	500

404--ZAPA-PEEKO-OUPICO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		ZAPA	PEEKO	OUPICO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	5-15	---	---	5-15	---
Sandberg bluegrass	POSE	---	---	2-5	2-5	---	2-5
Thurber needlegrass	STTH2	15-30	15-30	15-25	15-25	15-30	15-25
bluebunch wheatgrass	AGSP	---	---	25-40	25-40	---	25-40
globemallow	SPHAE	2-5	2-5	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	15-25	15-25	---	15-25
black sagebrush	ARARN	25-35	25-35	---	---	25-35	---
Range site number		024XY030NV	024XY030NV	025XY019NV	025XY019NV	024XY030NV	025XY019NV
Potential production (lb/acre):							
Favorable years		500	500	800	800	500	800
Normal years		350	350	600	600	350	600
Unfavorable years		250	250	400	400	250	400

405--ZAPA, STEEP ZAPA-HUNDRAW ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		ZAPA	ZAPA	HUNDRAW	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	5-15	X	2-5	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	15-30	15-30	X	10-20	15-25	15-25
bluebunch wheatgrass	AGSP	---	---	X	20-35	25-40	25-40
bluegrass	POA++	---	---	X	---	---	---
globemallow	SPHAE	2-5	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	X	---	---	---
phlox	PHLOX	---	---	X	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	15-25	15-25
black sagebrush	ARARN	25-35	25-35	X	25-35	---	---
downy rabbitbrush	CHVIP4	---	---	X	---	---	---
Utah juniper	JUOS	---	---	X	---	---	---
Range site number		024XY030NV	024XY030NV	025XY060NV	024XY031NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		500	500	400	700	800	800
Normal years		350	350	275	500	600	600
Unfavorable years		250	250	150	300	400	400

406--ZAPA-PIBLER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ZAPA	PIBLER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	30-40	---	---
Indian ricegrass	ORHY	5-15	5-15	---	---	2-8
Nevada bluegrass	PONE3	---	---	2-5	---	---
Thurber needlegrass	STTH2	15-30	15-30	---	10-20	10-20
basin wildrye	ELCI2	---	---	2-10	2-8	---
bluebunch wheatgrass	AGSP	---	---	15-30	20-35	30-40
bluegrass	POA++	---	---	---	2-10	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---
globemallow	SPHAE	2-5	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---
antelope bitterbrush	PUTR2	---	---	5-10	2-8	---
big sagebrush	ARTR2	---	---	---	10-20	---
black sagebrush	ARARN	25-35	25-35	---	---	20-30
mountain big sagebrush	ARVA2	---	---	10-20	---	---
Range site number		024XY030NV	024XY030NV	025XY012NV	025XY014NV	025XY057NV
Potential production (lb/acre)						
Favorable years		500	500	1400	1000	700
Normal years		350	350	1000	800	500
Unfavorable years		250	250	700	600	300

407--ZAPA-ENKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ZAPA	ENKO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	20-35	20-30	15-25	20-30	10-20
Sandberg bluegrass	POSE	2-8	2-5	2-5	2-5	---
bottlebrush squirreltail	SIHY	2-5	2-8	2-5	2-8	5-15
needleandthread	STCO4	5-15	10-20	10-20	10-20	---
Wyoming big sagebrush	ARTRW	---	25-35	---	25-35	---
black sagebrush	ARAR8	25-35	---	---	---	---
bud sagebrush	AFSP5	---	---	10-25	---	10-25
downy rabbitbrush	CHVIP4	2-5	---	---	---	---
rabbitbrush	CHRYS9	---	2-5	---	2-5	---
shadscale	ATCO	2-5	---	40-50	---	40-50

Range site number	028BY011NV	028BY010NV	028BY019NV	028BY010NV	028BY017NV
Potential production (lb acre):					
Favorable years	600	800	300	800	400
Normal years	450	600	225	600	300
Unfavorable years	250	400	100	400	200

41.--COSER-MCIVEY-CLEAVAGE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COSER	MCIVEY	CLEAVAGE	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	2-5	---
Idaho fescue	FEID	30-50	30-40	5-30	30-50	2-10	15-30
Nevada bluegrass	PONE3	---	2-5	---	---	2-5	---
Thurber needlegrass	STTHC	---	---	---	---	---	2-5
basin wildrye	ELCI2	---	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	15-30	15-30	---	15-30	2-5	10-20
bluegrass	POA++	2-10	---	5-15	2-10	---	---
mountain brome	BRCA5	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	---	5-15	---
spike fescue	LEKI2	---	---	---	---	2-10	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	2-5	5-10	---	2-5	1-5	20-40
common chokecherry	PRVI	---	---	---	---	1-5	---
low sagebrush	ARAR8	15-25	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	10-20	---	---	5-15	5-10
sagebrush	ARTEM	---	---	30-35	---	---	---
snowberry	SYMPH	---	---	---	---	2-15	---

Range site number	025XY017NV	025XY112NV	025XY114NV	025XY017NV	025XY004NV	025XY007NV
Potential production (lb acre						
Favorable years	[illegible]	14	400	900	2800	2300
Normal years	[illegible]	[illegible]	275	700	1800	1400
Unfavorable years	400	[illegible]	15	400	1200	900

411--COSER-COSER, MODERATELY STEEP-MCIVEY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COSER	COSER	MCIVEY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	2-5	---	---
Idaho fescue	FEID	30-50	30-50	30-40	2-10	2-10	30-50	40-60
Nevada bluegrass	PONE3	---	---	2-5	2-5	2-5	---	2-8
basin wildrye	ELCI2	---	---	2-10	---	---	---	2-8
bluebunch wheatgrass	AGSP	15-30	15-30	15-30	2-5	2-5	15-30	5-15
bluegrass	POA++	2-10	2-10	---	---	---	2-10	---
mountain brome	BRCA5	---	---	---	5-15	5-15	---	---
slender wheatgrass	AGTR	---	---	---	5-15	5-15	---	---
spike-fescue	LEKI2	---	---	---	2-10	2-10	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	1-5	---	---
antelope bitterbrush	PUTR2	2-5	2-5	5-10	1-5	1-5	2-5	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	10-20
common chokecherry	PRVI	---	---	---	1-5	1-5	---	---
low sagebrush	ARAR8	15-25	15-25	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	---	10-20	5-15	5-15	---	---
snowberry	SYMPH	---	---	---	2-15	2-15	---	---
Range site number		025XY017NV	025XY017NV	025XY012NV	025XY004NV	025XY004NV	025XY017NV	025XY027NV
Potential production (lb/acre):								
Favorable years		900	900	1400	2800	2800	900	1300
Normal years		700	700	1000	1800	1800	700	900
Unfavorable years		400	400	700	1200	1200	400	500

412--COSER-COSER, MODERATELY STEEP-LERROW ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COSER	COSER	LERROW	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	30-50	30-50	2-5	2-10	40-60	---	5-30
Indian ricegrass	ORHY	---	---	---	---	---	2-5	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	2-8	---	---
Thurber needlegrass	STTH2	---	---	2-8	---	---	10-20	---
basin wildrye	ELCI2	---	---	5-10	---	2-8	---	---
bluebunch wheatgrass	AGSP	15-30	15-30	50-60	2-5	5-15	20-35	---
bluegrass	POA++	2-10	2-10	---	---	---	---	5-15
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike fescue	LEKI2	---	---	---	2-10	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	---	2-5
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	2-5	2-5	2-10	1-5	---	---	---
basin big sagebrush	ARTRT	---	---	---	---	10-20	---	---
black sagebrush	ARARN	---	---	---	---	---	25-35	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
low sagebrush	ARAR8	15-25	15-25	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	5-15	5-15	---	---	---
sagebrush	ARTEM	---	---	---	---	---	---	30-35
snowberry	SYMPH	---	---	---	2-15	---	---	---

Range site number	025XY017NV	025XY017NV	025XY009NV	025XY004NV	025XY027NV	024XY031NV	025XY024NV
Potential production (lb/acre):							
Favorable years	900	900	1300	2800	1300	700	400
Normal years	700	700	900	1800	900	500	275
Unfavorable years	400	400	700	1200	500	300	150

414--COSER-FORVIC-SCALFAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COSER	FORVIC	SCALFAR	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	2-5	---	---
Idaho fescue	FEID	30-50	40-60	---	2-10	30-50	2-5
Indian ricegrass	ORHY	---	---	2-8	---	---	---
Nevada bluegrass	PONE3	---	2-8	---	2-5	---	2-5
Thurber needlegrass	STTH2	---	---	10-20	---	---	2-8
basin wildrye	ELCI2	---	2-8	---	---	---	5-10
bluebunch wheatgrass	AGSP	15-30	5-15	30-40	2-5	15-30	50-60
bluegrass	POA++	2-10	---	---	---	2-10	---
mountain brome	BRCA5	---	---	---	5-15	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---
antelope bitterbrush	PUTR2	2-5	---	---	1-5	2-5	2-10
basin big sagebrush	ARTRT	---	10-20	---	---	---	---
black sagebrush	ARARN	---	---	20-30	---	---	---
common chokecherry	PRVI	---	---	---	1-5	---	---
low sagebrush	ARAR8	15-25	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	---	---	5-15	---	5-15
snowberry	SYMPH	---	---	---	2-15	---	---
Range site number		025XY017NV	025XY027NV	025XY057NV	025XY004NV	025XY017NV	025XY009NV
Potential production (lb/acre):							
Favorable years		900	1300	700	2800	900	1300
Normal years		700	900	500	1800	700	900
Unfavorable years		400	500	300	1200	400	700

415--COSER-CLEAVAGE-PEQUOP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COSER	CLEAVAGE	PEQUOP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	30-50	30-50	30-40	2-10	2-5	---	---
Indian ricegrass	ORHY	---	---	---	---	---	2-8	2-5
Nevada bluegrass	PONE3	---	---	2-5	2-5	2-5	---	---
Thurber needlegrass	STTH2	---	---	---	---	2-8	10-20	10-20
basin wildrye	ELCI2	---	---	2-10	---	5-10	---	---
bluebunch wheatgrass	AGSP	15-30	15-30	15-30	2-5	50-60	30-40	20-35
bluegrass	POA++	2-10	2-10	---	---	---	---	---
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	2-5	2-5	5-10	1-5	2-10	---	---
black sagebrush	ARARN	---	---	---	---	---	20-30	25-35
common chokecherry	PRVI	---	---	---	1-5	---	---	---
low sagebrush	ARAR8	15-25	15-25	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-20	5-15	5-15	---	---
snowberry	SYMPH	---	---	---	2-15	---	---	---

Range site number	025XY017NV	025XY017NV	025XY012NV	025XY004NV	025XY009NV	025XY057NV	024XY031NV
Potential production (lb acre)							
Favorable years	900	900	1400	2800	1300	700	700
Normal years	700	700	1000	1800	900	500	500
Unfavorable years	400	400	700	1200	700	300	300

417--COSER-FEZ-QUOPANT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COSER	FEZ	QUOPANT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-5	---	---	---	---	---
Idaho fescue	FEID	30-50	2-10	---	30-40	40-60	---	5-15
Indian ricegrass	ORHY	---	---	2-5	---	---	2-8	---
Nevada bluegrass	PONE3	---	2-5	---	2-5	2-8	---	---
Thurber needlegrass	STTH2	---	---	10-20	---	---	10-20	---
basin wildrye	ELCI2	---	---	---	2-10	2-8	---	---
bluebunch wheatgrass	AGSP	15-30	2-5	20-35	15-30	5-15	30-40	2-10
bluegrass	POA++	2-10	---	---	---	---	---	---
mountain brome	BRCA5	---	5-15	---	---	---	---	---
slender wheatgrass	AGTR	---	5-15	---	---	---	---	---
spike-fescue	LEKI2	---	2-10	---	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---	---
antelope bitterbrush	PUTR2	2-5	1-5	---	5-10	---	---	2-8
basin big sagebrush	ARTRT	---	---	---	---	10-20	---	---
black sagebrush	ARARN	---	---	25-35	---	---	20-30	---
common chokecherry	PRVI	---	1-5	---	---	---	---	---
low sagebrush	ARAR8	15-25	---	---	---	---	---	---
mountain big sagebrush	ARVA2	---	5-15	---	10-20	---	---	2-5
serviceberry	AMELA	---	---	---	---	---	---	40-50
snowberry	SYMPH	---	2-15	---	---	---	---	2-8

Range site number	025XY017NV	025XY004NV	024XY031NV	025XY012NV	025XY027NV	025XY057NV	025XY046NV
Potential production (lb/acre):							
Favorable years	900	2800	700	1400	1300	700	1800
Normal years	700	1800	500	1000	900	500	1300
Unfavorable years	400	1200	300	700	500	300	900

418--RODIE-RUBBLE LAND-SUMINE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		RODIE	RUBBLE LAND	SUMINE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	2-5	2-5	---	---	---
Indian ricegrass	ORHY	---	---	---	---	---	5-15	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	---	5-10
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTH2	5-15	---	2-8	2-8	5-15	15-30	---
basin wildrye	ELCI2	---	---	5-10	5-10	2-5	---	60-70
bluebunch wheatgrass	AGSP	25-35	---	50-60	50-60	60-80	---	---
mat muhly	MURI	---	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
globemallow	SPHAE	---	---	---	---	---	2-5	---
tapertip hawksbeard	CRAC2	2-5	---	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	5-15	---	---
antelope bitterbrush	PUTR2	---	---	2-10	2-10	1-5	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
black sagebrush	ARARN	25-35	---	---	---	---	25-35	---
mountain big sagebrush	ARVA2	---	---	5-15	5-15	---	---	---
Range site number		025XY055NV	none	025XY009NV	025XY009NV	025XY015NV	024XY030NV	025XY003NV
Potential production (lb/acre):								
Favorable years		500		1300	1300	1000	500	4500
Normal years		375		900	900	700	350	3500
Unfavorable years		250		700	700	500	250	2000

421--RODIE-SHALCLEAV-KEMAN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		RODIE	SHALCLEAV	KEMAN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	5-15	---	---	---	---
Idaho fescue	FEID	---	---	25-40	15-30	---	30-40	---
Indian ricegrass	ORHY	---	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	2-8	---	---	2-5	5-10
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTH2	5-15	10-20	---	2-5	---	---	---
basin wildrye	ELCI2	---	---	---	---	---	2-10	60-70
bluebunch wheatgrass	AGSP	25-35	30-40	5-15	10-20	---	15-30	---
mat muhly	MURI	---	---	---	---	---	---	2-8
mountain brome	BRCA5	---	---	5-15	---	---	---	---
slender wheatgrass	AGTR	---	---	5-15	---	---	---	---
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5	---
tapertip hawksbeard	CRAC2	2-5	---	---	---	---	2-5	---
antelope bitterbrush	PUTR2	--	---	2-8	20-40	---	5-10	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
black sagebrush	ARARN	25-35	20-30	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-15	5-10	---	10-20	---
snowberry	SYMPH	---	---	2-5	---	---	---	---
snowbrush ceanothus	CEVE	---	---	---	---	70-80	---	---

Range site number	025XY055NV	025XY057NV	025XY056NV	025XY007NV	025XY052NV	025XY012NV	025XY003NV
Potential production (lb/acre):							
Favorable years	500	700	1500	2300	2800	1400	4500
Normal years	375	500	1100	1400	2000	1000	3500
Unfavorable years	250	300	700	900	1700	700	2000

422--RODIE-QUARZ-SHALCLEAV ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- RODIE	QUARZ	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	2-5	---	---	---	30-40	---
Indian ricegrass	ORHY	---	---	2-8	---	---	---	---
Nevada bluegrass	PONE3	---	2-5	---	---	---	2-5	---
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTH2	5-15	2-8	10-20	15-25	15-25	---	---
basin wildrye	ELCI2	---	5-10	---	---	---	2-10	---
bluebunch wheatgrass	AGSP	25-35	50-60	30-40	20-35	20-35	15-30	---
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5	---
tapertip hawksbeard	CRAC2	2-5	---	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	---	20-30	20-30	---	---
antelope bitterbrush	PUTR2	---	2-10	---	2-5	2-5	5-10	---
black sagebrush	ARARN	25-35	---	20-30	---	---	---	---
mountain big sagebrush	ARVA2	---	5-15	---	---	---	10-20	---

Range site number	025XY055NV	025XY006NV	025XY057NV	025XY021NV	025XY021NV	025XY012NV	none
Potential production (lb acre):							
Favorable years	500	1300	700	600	600	1400	
Normal years	375	900	500	400	400	1000	
Unfavorable years	250	700	300	250	250	700	

423--QUOPANT-COSER-LERROW ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		QUOPANT	COSER	LERROW	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	2-5	---
Idaho fescue	FEID	---	30-50	2-5	---	2-10	---
Indian ricegrass	ORHY	2-5	---	---	5-15	---	---
Nevada bluegrass	PONE3	---	---	2-5	---	2-5	---
Sandberg bluegrass	POSE	---	---	---	---	---	2-5
Thurber needlegrass	STTH2	10-20	---	2-8	15-30	---	5-15
basin wildrye	ELCI2	---	---	5-10	---	---	---
bluebunch wheatgrass	AGSP	20-35	15-30	50-60	---	2-5	25-35
bluegrass	POA++	---	2-10	---	---	---	---
mountain brome	BRCA5	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	2-10	---
globemallow	SPHAE	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5
Utah serviceberry	AMUT	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	2-5	2-10	---	1-5	---
black sagebrush	ARARN	25-35	---	---	25-35	---	25-35
common chokecherry	PRVI	---	---	---	---	1-5	---
low sagebrush	ARARB	---	15-25	---	---	---	---
mountain big sagebrush	ARVA2	---	---	5-15	---	5-15	---
snowberry	SYMPH	---	---	---	---	2-15	---
Range site number		024XY031NV	025XY017NV	025XY009NV	024XY030NV	025XY004NV	025XY055NV
Potential production (lb/acre):							
Favorable years		700	900	1300	500	2800	500
Normal years		500	700	900	350	1800	375
Unfavorable years		300	400	700	250	1200	250

430 -OCALA-ELK ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		OCALA	ELK	Inclusion 1	Inclusion 2
Nevada bluegrass	PONE3	---	---	5-10	---
alkali sacaton	SPAI	5-15	---	---	5-25
alpine timothy	PHAL2	---	---	5-10	---
basin wildrye	ELCI2	5-10	55-65	---	50-60
creeping wildrye	ELTR3	---	5-15	---	---
sedge	CAREX	---	---	5-10	---
tufted hairgrass	DECE	---	---	30-60	---
western wheatgrass	AGSM	---	5-15	---	---
Sierra clover	TRWO	---	---	2-5	---
cinquefoil	POTEN	---	---	2-5	---
basin big sagebrush	ARTRT	---	10-15	---	---
black greasewood	SAVE4	5-15	2-8	---	5-15
rubber rabbitbrush	CHNA2	2-5	---	---	2-5
Range site number		024XY007NV	024XY006NV	025XY005NV	024XY007NV
Potential production (lb/acre)					
Favorable years		1900	1500	3000	1900
Normal years		1400	1100	1700	1400
Unfavorable years		800	600	1000	800

431--OCALA-BATAN-DEVILSGAIT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		OCALA	BATAN	DEVILSGAIT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	2-5	---	---	---	---	20-30
Nevada bluegrass	PONE3	---	---	5-10	---	5-15	---	---
Sandberg bluegrass	POSE	---	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	---	---	---	15-25	---	---	---
alkali sacaton	SPAI	5-25	---	---	---	---	---	---
basin wildrye	ELCI2	50-60	5-20	60-70	---	---	15-20	---
bluebunch wheatgrass	AGSP	---	---	---	25-40	---	---	---
bottlebrush squirreltail	SIHY	---	2-5	---	---	---	2-10	5-10
inland saltgrass	DISPS2	---	---	---	---	2-5	2-8	---
mat muhly	MURI	---	---	2-8	---	2-5	---	---
sedge	CAREX	---	---	---	---	2-10	---	---
streambank wheatgrass	AGDAR	---	---	2-8	---	---	---	---
wildrye	ELYMU	---	---	---	---	60-80	---	---
globemallow	SPHAE	---	1-2	---	---	---	---	---
thelypody	THELY	---	2-4	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	15-25	---	---	---
basin big sagebrush	ARTRT	---	---	5-10	---	---	---	---
big sagebrush	ARTR2	---	10-25	---	---	---	---	---
black greasewood	SAVE4	5-15	20-30	---	---	---	50-65	---
rubber rabbitbrush	CHNA2	2-5	---	---	---	---	---	---
sickle saltbush	ATFA	---	---	---	---	---	---	50-60
spiny hopsage	GRSP	---	5-15	---	---	---	---	---
willow	SALIX	---	---	---	---	5-10	---	---

Range site number	024XY037NV	024XY022NV	025XY043NV	025XY019NV	025XY001NV	024XY008NV	024XY012NV
Potential production (lb/acre)-							
Favorable years	1900	800	4500	800	3500	700	700
Normal years	1400	600	3500	600	2500	450	400
Unfavorable years	800	350	2000	400	1800	300	200

432--OCALA-IXIAN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions		
		Soil name or Inclusion number--		
		OCALA	IXIAN	Inclusion 1
alkali sacaton	SPA1	15-40	5-10	5-10
basin wildrye	ELCI2	40-60	2-5	2-5
inland saltgrass	DISPS2	2-5	2-8	2-8
western wheatgrass	AGSM	2-5	---	---
black greasewood	SAVE4	5-15	60-75	60-75
rubber rabbitbrush	CHNA2	2-5	2-5	2-5
shadscale	ATCO	--	2-5	2-5
Range site number		028BY004NV	028BY020NV	028BY020NV
Potential production (lb/acre):				
Favorable years		2200	500	500
Normal years		1500	300	300
Unfavorable years		800	150	150

462--GRALEY-CHEN-ARCIA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number--						
		GRALEY	CHEN	ARCIA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	15-30	30-50	30-40	---	2-5	30-40	---
Nevada bluegrass	PONE3	---	---	2-5	---	2-5	2-5	5-10
Thurber needlegrass	STTH2	2-5	---	---	---	2-8	---	---
basin wildrye	ELCI2	---	---	2-10	---	5-10	2-10	60-70
bluebunch wheatgrass	AGSP	10-20	15-30	15-30	---	50-60	15-30	---
bluegrass	POA++	---	2-10	---	---	---	---	---
mat muhly	MURI	---	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	2-5	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	2-5	---
antelope bitterbrush	PUTR2	20-40	2-5	5-10	---	2-10	5-10	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
low sagebrush	ARAR8	---	15-25	---	---	---	---	---
mountain big sagebrush	APVA2	5-10	---	10-20	---	5-15	10-20	---
Range site number		025XY007NV	025XY017NV	025XY012NV	none	025XY009NV	025XY012NV	025XY003NV
Potential production (lb/acre):								
Favorable years		2300	900	1400		1300	1400	4500
Normal years		1400	700	1000		900	1000	3500
Unfavorable years		900	400	700		700	700	2000

470--CHEN-GRALEY-ROCK OUTCROP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CHEN	GRALEY	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	15-30	---	5-30	2-5	---	---
Indian ricegrass	ORHY	---	---	---	---	---	2-5	2-5
Nevada bluegrass	PONE3	---	---	---	---	2-5	---	---
Thurber needlegrass	STTH2	---	2-5	---	---	2-8	10-20	5-10
basin wildrye	ELCI2	---	---	---	---	5-10	---	---
bluebunch wheatgrass	AGSP	15-30	10-20	---	---	50-60	20-35	5-10
bluegrass	POA++	2-10	---	---	5-15	---	---	2-8
bottlebrush squirreltail	SIHY	---	---	---	---	---	---	2-5
goldenweed	HAPLO2	---	---	---	2-5	---	---	---
antelope bitterbrush	PUTR2	2-5	20-40	---	---	2-10	---	---
black sagebrush	ARARN	---	---	---	---	---	25-35	---
low sagebrush	ARAR8	15-25	---	---	---	---	---	---
mountain big sagebrush	ARVA2	---	5-10	---	---	5-15	---	2-5
sagebrush	ARTEM	---	---	---	30-35	---	---	---
curlleaf mountainmahogany	CELE3	---	---	---	---	---	---	50-70
Range site number		025XY017NV	026XY007NV	none	025XY024NV	025XY009NV	024XY031NV	028BY042NV
Potential production (lb acre):								
Favorable years		900	2300		400	1300	700	3000
Normal years		700	1400		275	900	500	2400
Unfavorable years		400	900		150	700	300	1700

472--CHEN-COSER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		CHEN	COSER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-50	30-50	5-15	---	30-50
Nevada bluegrass	PONE3	---	---	---	40-60	---
alpine timothy	PHAL2	---	---	---	20-40	---
basin wildrye	ELCI2	---	---	---	2-8	---
bluebunch wheatgrass	AGSP	15-30	15-30	2-10	---	15-30
bluegrass	POA++	2-10	2-10	---	---	2-10
mat muhly	MURI	---	---	---	2-8	---
meadow barley	HOBR2	---	---	---	2-5	---
sedge	CAREX	---	---	---	2-8	---
antelope bitterbrush	PUTR2	2-5	2-5	2-8	---	2-5
low sagebrush	ARAR8	15-25	15-25	---	---	15-25
mountain big sagebrush	ARVA2	---	---	2-5	---	---
serviceberry	AMELA	---	---	40-50	---	---
snowberry	SYMPH	---	---	2-8	---	---
Range site number		025XY017NV	025XY017NV	025XY046NV	025XY006NV	025XY017NV
Potential production (lb/acre)						
Favorable years		900	900	1800	2000	900
Normal years		700	700	1300	1300	700
Unfavorable years		400	400	900	800	400

473 CHEN-SHALPER-SHALCLEAV ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- CHEN	SHALPER	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	---	---	---	40-60	30-40	---
Indian ricegrass	ORHY	---	---	2-5	X	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-8	2-5	---
Thurber needlegrass	STTH2	---	15-25	10-20	X	---	---	---
basin wildrye	ELCI2	---	---	---	---	2-8	2-10	---
bluebunch wheatgrass	AGSP	15-30	20-35	30-40	X	5-15	15-30	---
bluegrass	POA++	2-10	---	---	X	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5	---
goldenweed	HAPLO2	---	---	---	X	---	---	---
phlox	PHLOX	---	---	---	X	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	20-30	---	---	---	---	---
antelope bitterbrush	PUTR2	2-5	2-5	---	---	---	5-10	---
basin big sagebrush	ARTRT	---	---	---	---	10-20	---	---
black sagebrush	ARARN	---	---	20-30	X	---	---	---
downy rabbitbrush	CHVIF4	---	---	---	X	---	---	---
low sagebrush	ARAR8	15-25	---	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20	---
Utah juniper	JUOS	---	---	---	X	---	---	---

Range site number	025XY017NV	025XY021NV	025XY067NV	025XY068NV	025XY027NV	025XY012NV	none
Potential production (lb/acre):							
Favorable years	900	650	700	400	1300	1400	
Normal years	700	450	500	275	900	1000	
Unfavorable years	400	250	300	150	500	700	

474--CHEN-SHALCLEAV-VITALE ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CHEN	SHALCLEAV	VITALE	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-50	---	30-40	2-5	---	---
Indian ricegrass	ORHY	---	2-8	---	---	X	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	---	10-20	---	2-8	X	---
basin wildrye	ELCI2	---	---	2-10	5-10	---	---
bluebunch wheatgrass	AGSP	15-30	30-40	15-30	50-60	X	---
bluegrass	POA++	2-10	---	---	---	X	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---
goldenweed	HAPLO2	---	---	---	---	X	---
phlox	PHLOX	---	---	---	---	X	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---
antelope bitterbrush	PUTR2	2-5	---	5-10	2-10	---	---
black sagebrush	ARARN	---	20-30	---	---	X	---
downy rabbitbrush	CHVIP4	---	---	---	---	X	---
low sagebrush	ARAR8	15-25	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-20	5-15	---	---
Utah juniper	JUOS	---	---	---	---	X	---
Range site number		025XY017NV	025XY057NV	025XY012NV	025XY009NV	025XY060NV	none
Potential production (lb acre):							
Favorable years		900	700	1400	1300	400	
Normal years		700	500	1000	900	275	
Unfavorable years		400	300	700	700	150	

488--DEVILSGAIT-KELK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		DEVILSGAIT	KELK	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	5-10	---	5-10	---	---
Sandberg bluegrass	POSE	---	2-5	---	2-5	---
Thurber needlegrass	STTH2	---	15-25	---	15-25	10-20
basin wildrye	ELCI2	60-70	---	60-70	---	2-8
bluebunch wheatgrass	AGSP	---	25-40	---	25-40	20-35
bluegrass	POA++	---	---	---	---	2-10
mat muhly	MURI	2-8	---	2-8	---	---
streambank wheatgrass	AGDAR	2-8	---	2-8	---	---
Wyoming big sagebrush	ARTRW	---	15-25	---	15-25	---
antelope bitterbrush	PUTR2	---	---	---	---	2-8
basin big sagebrush	ARTRT	5-10	---	5-10	---	---
big sagebrush	ARTR2	---	---	---	---	10-20
Range site number		025XY003NV	025XY019NV	025XY003NV	025XY019NV	025XY014NV
Potential production (lb acre):						
Favorable years		4500	800	4500	800	1000
Normal years		3500	600	3500	600	800
Unfavorable years		2500	400	2000	400	600

481--DEVILSGAIT-BATAN-DEVILSGAIT, DRAINED ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		DEVILSGAIT	BATAN	DEVILSGAIT	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	2-5	---	---	---	---
Nevada bluegrass	PONE3	5-15	---	5-10	---	---	---
alkali sacaton	SPAI	---	---	---	5-25	---	---
basin wildrye	ELCI2	---	5-20	60-70	50-60	15-20	55-65
bottlebrush squirreltail	SIHY	---	2-5	---	---	2-10	---
creeping wildrye	ELTR3	---	---	---	---	---	5-15
inland saltgrass	DISPS2	2-5	---	---	---	2-8	---
mat muhly	MURI	2-5	---	2-8	---	---	---
sedge	CAREX	2-10	---	---	---	---	---
streambank wheatgrass	AGDAR	---	---	2-8	---	---	---
western wheatgrass	AGSM	---	---	---	---	---	5-15
wildrye	ELYMU	60-80	---	---	---	---	---
globemallow	SPHAE	---	1-2	---	---	---	---
thelypody	THELY	---	2-4	---	---	---	---
basin big sagebrush	ARTRT	---	---	5-10	---	---	10-15
big sagebrush	ARTR2	---	10-25	---	---	---	---
black greasewood	SAVE4	---	20-30	---	5-15	50-65	2-8
rubber rabbitbrush	CHNA2	---	---	---	2-5	---	---
spiny hopsage	GRSP	---	5-15	---	---	---	---
willow	SALIX	5-10	---	---	---	---	---

Range site number	025XY001NV	024XY022NV	026XY003NV	024XY007NV	024XY008NV	024XY006NV
Potential production (lb/acre):						
Favorable years	3500	800	4500	1900	700	1500
Normal years	2500	600	3500	1400	450	1100
Unfavorable years	1800	350	2000	800	300	600

482--DEVILSGAIT SILT LOAM, FREQUENTLY FLOODED, 0 TO 2 PERCENT SLOPES

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		DEVILSGAIT	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	2-5	---
Nevada bluegrass	PONE3	5-15	---	---	---
alkali sacaton	SPAI	---	5-25	---	---
basin wildrye	ELCI2	---	50-60	5-20	15-20
bottlebrush squirreltail	SIHY	---	---	2-5	2-10
inland saltgrass	DISPS2	2-5	---	---	2-8
mat muhly	MURI	2-5	---	---	---
sedge	CAREX	2-10	---	---	---
wildrye	ELYMU	60-80	---	---	---
globemallow	SPHAE	---	---	1-2	---
thelypody	THELY	---	---	2-4	---
big sagebrush	ARTR2	---	---	10-25	---
black greasewood	SAVE4	---	5-15	20-30	50-65
rubber rabbitbrush	CHNA2	---	2-5	---	---
spiny hopsage	GRSP	---	---	5-15	---
willow	SALIX	5-10	---	---	---
Range site number		025XY001NV	024XY007NV	024XY022NV	024XY008NV
Potential production (lb/acre):					
Favorable years		3500	1900	800	700
Normal years		2500	1400	600	450
Unfavorable years		1800	800	350	300

483--DEVILSGAIT-VALMY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		DEVILSGAIT	VALMY	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	2-5	---	---	---
Nevada bluegrass	PONE3	5-15	---	---	---	---
alkali bluegrass	POJU	---	---	---	5-15	---
alkali cordgrass	SPGR	---	---	---	5-10	---
alkali muhly	MUAS	---	---	---	10-20	---
alkali sacaton	SPAI	---	---	5-25	15-40	---
basin wildrye	ELCI2	---	5-20	50-60	2-5	55-65
bottlebrush squirreltail	SIHY	---	2-5	---	---	---
creeping wildrye	ELTR3	---	---	---	---	5-15
inland saltgrass	DISPS2	2-5	---	---	5-10	---
mat muhly	MURI	2-5	---	---	---	---
sedge	CAREX	2-10	---	---	---	---
western wheatgrass	AGSM	---	---	---	---	5-15
wildrye	ELYMU	60-80	---	---	---	---
arrowgrass	TRIGL	---	---	---	1-3	---
globemallow	SPHAE	---	1-2	---	---	---
thelypody	THELY	---	2-4	---	---	---
basin big sagebrush	ARTRT	---	---	---	---	10-15
big sagebrush	ARTR2	---	10-25	---	---	---
black greasewood	SAVE4	---	20-30	5-15	---	2-8
rubber rabbitbrush	CHNA2	---	---	2-5	---	---
spiny hopsage	GRSP	---	5-15	---	---	---
willow	SALIX	5-10	---	---	---	---
Range site number		025XY001NV	024XY022NV	024XY007NV	024XY009NV	024XY006NV
Potential production (lb/acre):						
Favorable years		3500	800	1900	1500	1500
Normal years		2500	600	1400	1000	1100
Unfavorable years		1800	350	800	700	600

490--LONCAN-SUMINE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		LONCAN	SUMINE	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-40	2-5	---	30-50	30-40
Nevada bluegrass	PONE3	2-5	2-5	---	---	2-5
Thurber needlegrass	STTH2	---	2-8	15-25	---	---
basin wildrye	ELCI2	2-10	5-10	---	---	2-10
bluebunch wheatgrass	AGSP	15-30	50-60	20-35	15-30	15-30
bluegrass	POA++	---	---	---	2-10	---
arrowleaf balsamroot	BASA3	2-5	---	---	---	2-5
tapertip hawksbeard	CRAC2	2-5	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	20-30	---	---
antelope bitterbrush	PUTR2	5-10	2-10	2-5	2-5	5-10
low sagebrush	ARAR8	---	---	---	15-25	---
mountain big sagebrush	ARVA2	10-20	5-15	---	---	10-20
Range site number		025XY012NV	025XY009NV	025XY021NV	025XY017NV	025XY012NV
Potential production (lb/acre):						
Favorable years		1400	1300	600	900	1400
Normal years		1000	900	400	700	1000
Unfavorable years		700	500	250	400	700

520--HALLECK SILT LOAM, FREQUENTLY FLOODED, 0 TO 2 PERCENT SLOPES

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HALLECK	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	5-10	5-15	5-10	---	40-60
alkali sacaton	SPAI	---	---	---	5-25	---
alpine timothy	PHAL2	5-10	---	5-10	---	20-40
basin wildrye	ELCI2	---	---	---	50-60	2-8
inland saltgrass	DISPS2	---	2-5	---	---	---
mat muhly	MURI	---	2-5	---	---	2-8
meadow barley	HOBR2	---	---	---	---	2-5
sedge	CAREX	5-10	2-10	5-10	---	2-8
tufted hairgrass	DECE	30-60	---	30-60	---	---
wildrye	ELYMU	---	60-80	---	---	---
Sierra clover	TRWO	2-5	---	2-5	---	---
cinquefoil	POTEN	2-5	---	2-5	---	---
black greasewood	SAVE4	---	---	---	5-15	---
rubber rabbitbrush	CHNA2	---	---	---	2-5	---
willow	SALIX	---	5-10	---	---	---
Range site number		025XY005NV	025XY001NV	025XY005NV	024XY007NV	025XY006NV
Potential production (lb/acre):						
Favorable years		3000	3500	3000	1900	2000
Normal years		1700	2500	1700	1400	1300
Unfavorable years		1000	1800	1000	800	800

521--HALLECK, GRAVELLY SUBSTRATUM-HALLECK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HALLECK	HALLECK	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Nevada bluegrass	PONE3	5-10	5-10	5-10	40-60	---	5-10
alpine timothy	PHAL2	---	---	---	20-40	---	5-10
basin wildrye	ELCI2	60-70	60-70	60-70	2-8	55-65	---
creeping wildrye	ELTR3	---	---	---	---	5-15	---
mat muhly	MURI	2-8	2-8	2-8	2-8	---	---
meadow barley	HOBR2	---	---	---	2-5	---	---
sedge	CAREX	---	---	---	2-8	---	5-10
streambank wheatgrass	AGDAR	2-8	2-8	2-8	---	---	---
tufted hairgrass	DECE	---	---	---	---	---	30-60
western wheatgrass	AGSM	---	---	---	---	5-15	---
Sierra clover	TRWO	---	---	---	---	---	2-5
cinquefoil	POTEN	---	---	---	---	---	2-5
basin big sagebrush	ARTRT	5-10	5-10	5-10	---	10-15	---
black greasewood	SAVE4	---	---	---	---	2-8	---
Range site number		025XY003NV	025XY003NV	025XY003NV	025XY006NV	024XY006NV	025XY005NV
Potential production (lb acre):							
Favorable years		4500	4500	4500	2000	1500	3000
Normal years		3500	3500	3500	1300	1100	1700
Unfavorable years		2000	2000	2000	800	600	1000

530--EKIM-GOLLAHER-LONCAN ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		EKIM	GOLLAHER	LONCAN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-8	---
Idaho fescue	FEID	2-5	---	30-40	5-15	X	---	---
Indian ricegrass	ORHY	---	2-8	---	---	---	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	2-5	40-60
Nevada bluegrass	PONE3	2-5	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	2-8	10-20	---	---	---	---	---
basin wildrye	ELCI2	5-10	---	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	50-60	30-40	15-30	2-10	---	---	---
horsemint giant hyssop	AGUR	---	---	---	---	X	---	---
mountain brome	BRCA5	---	---	---	---	X	5-10	---
slender wheatgrass	AGTR	---	---	---	---	X	5-10	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
groundsel	SENEC	---	---	---	---	X	---	---
tailcup lupine	LUCA	---	---	---	---	---	---	20-40
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	X	---	---
antelope bitterbrush	PUTR2	2-10	---	5-10	2-8	---	---	---
black sagebrush	ARARN	---	20-30	---	---	---	---	---
mountain big sagebrush	ARVA2	5-15	---	10-20	2-5	---	---	---
quaking aspen	POTRT	---	---	---	---	X	50-60	---
serviceberry	AMELA	---	---	---	40-50	---	---	---
snowberry	SYMPH	---	---	---	2-8	X	---	---
willow	SALIX	---	---	---	---	---	1-8	---
quaking aspen	POTRT	---	---	---	---	X	50-60	---

Range site number	025XY009NV	025XY057NV	025XY012NV	025XY046NV	025XY065NV	025XY002NV	025XY028NV
Potential production (lb/acre):							
Favorable years	1300	700	1400	1800	800	1800	1700
Normal years	900	500	1000	1300	600	1300	1400
Unfavorable years	700	300	700	900	400	900	1100

542--SUMINE-HARGOOD-GOLLAHER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SUMINE	HARGOOD	GOLLAHER	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	2-5	---	---	---	---
Cusick bluegrass	POCU3	---	---	---	---	5-10	---
Idaho fescue	FEID	2-5	2-10	---	2-10	50-65	30-50
Indian ricegrass	ORHY	---	---	2-5	---	---	---
Letterman needlegrass	STLE4	---	---	---	2-5	---	---
Nevada bluegrass	PONE3	2-5	2-5	---	2-5	---	---
Thurber needlegrass	STTH2	2-5	---	10-20	---	---	---
Basin wildrye	ELCI2	5-10	---	---	5-15	---	---
bluebunch wheatgrass	AGSP	5-8	2-5	30-40	30-50	2-5	15-30
bluegrass	POA++	---	---	--	---	---	2-10
mountain brome	BRCA5	---	5-15	---	20-40	---	---
slender wheatgrass	AGTR	---	5-15	---	---	---	---
spike-fescue	LEKI2	---	2-10	--	2-5	---	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---
antelope bitterbrush	PUTR2	2-10	1-5	---	5-10	---	2-5
black sagebrush	ARAR8	---	---	20-30	---	---	---
common chokecherry	PRVI	---	1-5	---	---	---	---
low sagebrush	ARAR8	---	---	--	---	---	15-25
mountain big sagebrush	ARVA2	5-15	5-15	---	5-15	2-8	---
snowberry	SYMPH	---	2-15	---	---	---	---
Range site number		025XY006NV	025XY004NV	025XY007NV	025XY016NV	025XY010NV	025XY017NV
Potential production (lb acre):							
Favorable years		1300	2800	700	2000	1200	900
Normal years		900	1900	500	1400	800	700
Unfavorable years		700	1200	300	1000	600	400

541--SUMINE-CLEAVAGE-BULLUMP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SUMINE	CLEAVAGE	BULLUMP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	2-8	---	---
Idaho fescue	FEID	2-5	5-30	2-10	2-5	---	---	---
Letterman needlegrass	STLE4	---	---	2-5	---	2-5	40-60	---
Nevada bluegrass	PONE3	2-5	---	2-5	2-5	---	---	5-10
Thurber needlegrass	STTH2	2-8	---	---	2-8	---	---	---
basin wildrye	ELCI2	5-10	---	5-15	5-10	---	---	60-70
bluebunch wheatgrass	AGSP	50-60	---	30-50	50-60	---	---	---
bluegrass	POA++	---	5-15	---	---	---	---	---
mat muhly	MURI	---	---	---	---	---	---	2-8
mountain brome	BRCA5	---	---	20-40	---	5-10	---	---
slender wheatgrass	AGTR	---	---	---	---	5-10	---	---
spike-fescue	LEKI2	---	---	2-5	---	---	---	---
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
goldenweed	HAPLO2	---	2-5	---	---	---	---	---
tailcup lupine	LUCA	---	---	---	---	---	20-40	---
antelope bitterbrush	PUTR2	2-10	---	5-10	2-10	---	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
mountain big sagebrush	ARVA2	5-15	---	5-15	5-15	---	---	---
quaking aspen	POTRT	---	---	---	---	50-60	---	---
sagebrush	ARTEM	---	30-35	---	---	---	---	---
willow	SALIX	---	---	---	---	1-8	---	---
Range site number		025XY009NV	025XY024NV	025XY016NV	025XY009NV	025XY002NV	025XY028NV	025XY003NV
Potential production (lb/acre):								
Favorable years		1300	400	2000	1300	1800	1700	4500
Normal years		900	275	1400	900	1300	1400	3500
Unfavorable years		700	150	1000	700	900	1100	2000

542--SUMINE-CLEAVAGE-HACKWOOD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SUMINE	CLEAVAGE	HACKWOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	2-5	5-30	X	2-10	2-10	15-30	---
Letterman needlegrass	STLE4	---	---	---	---	2-5	---	40-60
Nevada bluegrass	PONE3	2-5	---	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	2-8	---	---	---	---	2-5	---
basin wildrye	ELCI2	5-10	---	---	---	5-15	---	---
bluebunch wheatgrass	AGSP	50-60	---	---	2-5	30-50	10-20	---
bluegrass	POA++	---	5-15	---	---	---	---	---
horsemint giant hyssop	AGUR	---	---	X	---	---	---	---
mountain brome	BRCA5	---	---	X	5-15	20-40	---	---
slender wheatgrass	AGTR	---	---	X	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	2-5	---	---
goldenweed	HAPL02	---	2-5	---	---	---	---	---
groundsel	SENEC	---	---	X	---	---	---	---
tailcup lupine	LUCA	---	---	---	---	---	---	20-40
Utah serviceberry	AMUT	---	---	X	1-5	---	---	---
antelope bitterbrush	PUTR2	2-10	---	---	1-5	5-10	20-40	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	5-15	---	---	5-15	5-15	5-10	---
sagebrush	ARTEM	---	30-35	---	---	---	---	---
snowberry	SYMPH	---	---	X	2-15	---	---	---
quaking aspen	POTR1	---	---	X	---	---	---	---

Range site number	025XY009NV	025XY024NV	025XY065NV	025XY004NV	025XY016NV	025XY007NV	025XY028NV
Potential production (lb/acre):							
Favorable years	1300	400	800	2800	2000	2300	1700
Normal years	900	275	600	1800	1400	1400	1400
Unfavorable years	500	150	400	1200	1000	900	1100

543--SUMINE-PERNTY-TUSEL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SUMINE	PERNTY	TUSEL	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	2-5	---	2-5	---
Idaho fescue	FEID	2-5	5-15	2-10	5-30	2-10	---
Nevada bluegrass	PONE3	2-5	---	2-5	---	2-5	---
Thurber needlegrass	STTH2	2-8	---	---	---	---	---
basin wildrye	ELCI2	5-10	---	---	---	---	---
bluebunch wheatgrass	AGSP	50-60	2-10	2-5	---	2-5	---
bluegrass	POA++	---	---	---	5-15	---	---
mountain brome	BRCA5	---	---	5-15	---	5-15	---
slender wheatgrass	AGTR	---	---	5-15	---	5-15	---
spike-fescue	LEXI2	---	---	2-10	---	2-10	---
goldenweed	HAPLO2	---	---	---	2-5	---	---
Utah serviceberry	AMUT	---	---	1-5	---	1-5	---
antelope bitterbrush	PUTR2	2-10	2-8	1-5	---	1-5	---
common chokecherry	PRVI	---	---	1-5	---	1-5	---
mountain big sagebrush	ARVA2	5-15	2-5	5-15	---	5-15	---
sagebrush	ARTEM	---	---	---	30-35	---	---
serviceberry	AMELA	---	40-50	---	---	---	---
snowberry	SYMPH	---	2-8	2-15	---	2-15	---
Range site number		025XY009NV	025XY046NV	025XY004NV	025XY024NV	025XY004NV	none
Potential production (lb/acre):							
Favorable years		1300	1800	2800	400	2800	
Normal years		900	1300	1800	275	1800	
Unfavorable years		700	900	1200	150	1200	

550--BULLUMP-SUMINE-HAPGOOD ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		BULLUMP	SUMINE	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	2-5	---	---	---
Idaho fescue	FEID	2-10	2-5	2-10	---	---	---
Indian ricegrass	ORHY	---	---	---	---	2-8	---
Letterman needlegrass	STLE4	2-5	---	---	---	---	---
Nevada bluegrass	PONE3	2-5	2-5	2-5	---	---	---
Thurber needlegrass	STTH2	---	2-8	---	---	10-20	---
basin wildrye	ELCI2	5-15	5-10	---	---	---	---
bluebunch wheatgrass	AGSP	30-50	50-60	2-5	---	30-40	---
mountain brome	BRCA5	20-40	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	5-15	---	---	---
spike-fescue	LEKI2	2-5	---	2-10	---	---	---
Utah serviceberry	AMUT	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	5-10	2-10	1-5	---	---	---
black sagebrush	ARARN	---	---	---	---	20-30	---
common chokecherry	PRVI	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	5-15	5-15	5-15	---	---	---
snowberry	SYMPH	---	---	2-15	---	---	---
Range site number		025XY016NV	025XY009NV	025XY034NV	none	025XY057NV	none
Potential production (lb/acre):							
Favorable years		2000	1300	2800		700	
Normal years		1400	900	1800		500	
Unfavorable years		1000	700	1200		300	

560--AMENE-BELSAC-ONKEYO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		AMENE	BELSAC	ONKEYO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-5	---	2-5	---	---	2-8
Idaho fescue	FEID	5-15	2-10	5-15	2-10	---	15-30	---
Indian ricegrass	ORHY	---	---	---	---	2-8	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	---	2-5
Nevada bluegrass	PONE3	---	2-5	---	2-5	---	---	---
Thurber needlegrass	STTH2	---	---	---	---	10-20	2-5	---
basin wildrye	ELCI2	---	---	2-8	---	---	---	---
bluebunch wheatgrass	AGSP	2-10	2-5	15-25	2-5	30-40	10-20	---
mountain brome	BRCA5	---	5-15	5-10	5-15	---	---	5-10
slender wheatgrass	AGTR	---	5-15	---	5-15	---	---	5-10
spike fescue	LEKI2	---	2-10	---	2-10	---	---	---
Utah serviceberry	AMUT	---	1-5	2-8	1-5	---	---	---
antelope bitterbrush	PUTR2	2-8	1-5	2-10	1-5	---	20-40	---
black sagebrush	ARARN	---	---	---	---	20-30	---	---
common chokecherry	PRVI	---	1-5	---	1-5	---	---	---
mountain big sagebrush	ARVA2	2-5	5-15	10-20	5-15	---	5-10	---
quaking aspen	POTR	---	---	---	---	---	---	50-60
serviceberry	AMELA	40-50	---	---	---	---	---	---
snowberry	SYMPH	2-8	2-15	---	2-15	---	---	---
willow	SALIX	---	---	---	---	---	---	1-8

Range site number	025XY046NV	025XY004NV	025XY042NV	025XY004NV	025XY057NV	025XY007NV	025XY002NV
Potential production (lb/acre)--							
Favorable years	1800	2800	700	2800	700	2300	1800
Normal years	1300	1800	500	1800	500	1400	1300
Unfavorable years	900	1200	300	1200	300	900	900

561--AMENE-EKIM-AGASSIZ ASSOCATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		AMENE	EKIM	AGASSIZ	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	2-5	2-8	---
Idaho fescue	FEID	5-15	2-5	---	---	2-10	---	X
Indian ricegrass	ORHY	---	---	2-5	2-8	---	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	2-5	---
Nevada bluegrass	PONE3	---	2-5	---	---	2-5	---	---
Thurber needlegrass	STTH2	---	2-8	5-10	10-20	---	---	---
basin wildrye	ELCI2	---	5-10	---	---	---	---	---
bluebunch wheatgrass	AGSP	2-10	50-60	5-10	30-40	2-5	---	---
bluegrass	POA++	---	---	2-8	---	---	---	---
bottlebrush squirreltail	SIHY	---	---	2-5	---	---	---	---
horsemint giant hyssop	AGUR	---	---	---	---	---	---	X
mountain brome	BRCA5	---	---	---	---	5-15	5-10	X
slender wheatgrass	AGTR	---	---	---	---	5-15	5-10	X
spike-fescue	LEKI2	---	---	---	---	2-10	---	---
groundsel	SENEC	---	---	---	---	---	---	X
Utah serviceberry	AMUT	---	---	---	---	1-5	---	X
antelope bitterbrush	PUTR2	2-8	2-10	---	---	1-5	---	---
black sagebrush	ARARN	---	---	---	20-30	---	---	---
common chokecherry	PRVI	---	---	---	---	1-5	---	---
mountain big sagebrush	ARVA2	2-5	5-15	2-5	---	5-15	---	---
quaking aspen	POTRT	---	---	---	---	---	50-60	X
serviceberry	AMELA	40-50	---	---	---	---	---	---
snowberry	SYMPH	2-8	---	---	---	2-15	---	X
willow	SALIX	---	---	---	---	---	1-8	---
curlleaf mountainmahogany	CELE3	---	---	50-70	---	---	---	---
quaking aspen	POTRT	---	---	---	---	---	50-60	X

Range site number	025XY046NV	025XY009NV	028BY042NV	025XY057NV	025XY004NV	025XY002NV	025XY065NV
Potential production (lb/acre):							
Favorable years	1800	1300	3000	700	2800	1800	800
Normal years	1300	900	2400	500	1800	1300	600
Unfavorable years	900	700	1700	300	1200	900	400

570--TUSEL-BELSAC VARIANT ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		TUSEL	BELSAC VARIA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-8	2-5	---	---	---
Cusick bluegrass	POCU3	5-10	---	---	---	---	---
Idaho fescue	FEID	50-65	---	5-10	2-10	---	X
Letterman needlegrass	STLE4	---	2-5	---	2-5	40-60	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	---
basin wildrye	ELCI2	---	---	---	5-15	---	---
bluebunch wheatgrass	AGSP	2-5	---	2-5	30-50	---	---
horsemint giant hyssop	AGLF	---	---	---	---	---	X
mountain brome	BRCA5	---	5-10	5-15	20-40	---	X
slender wheatgrass	AGTR	---	5-10	5-10	---	---	X
spike-fescue	LEKI2	---	---	2-10	2-5	---	---
groundsel	SENEC	---	---	---	---	---	X
tailcup lupine	LUCA	---	---	---	---	20-40	---
Utah serviceberry	AMUT	---	---	1-5	---	---	X
antelope bitterbrush	PUTR2	---	---	1-5	5-10	---	---
common chokecherry	PRV1	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	2-8	---	5-15	5-15	---	---
quaking aspen	POTRT	---	50-65	---	---	---	X
snowberry	SYMPH	---	---	2-15	---	---	X
willow	SALIX	---	1-8	---	---	---	---
quaking aspen	POTRT	---	50-65	---	---	---	X

Range site number	025XY011NV	025XY028NV	025XY034NV	025XY016NV	025XY028NV	025XY065NV
Potential production (lb/acre						
Favorable years	1200	1800	2600	2000	1700	800
Normal years	800	1200	1400	1400	1400	600
Unfavorable years	600	900	1200	1000	1100	400

580--PELK-SONOMA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		PELK	SONOMA	Inclusion 1	Inclusion 2
Nevada bluegrass	PONE3	---	5-10	---	---
Sandberg bluegrass	POSE	2-5	---	---	2-5
Thurber needlegrass	STTH2	15-25	---	---	15-25
basin wildrye	ELCI2	---	60-70	55-65	---
bluebunch wheatgrass	AGSP	25-40	---	---	25-40
creeping wildrye	ELTR3	---	---	5-15	---
mat muhly	MURI	---	2-8	---	---
streambank wheatgrass	AGDAR	---	2-8	---	---
western wheatgrass	AGSM	---	-	5-15	---
Wyoming big sagebrush	ARTRW	15-25	--	---	15-25
basin big sagebrush	ARTRT	---	5-10	10-15	---
black greasewood	SAVE4	--	---	2-8	---
Range site number		025XY012NV	025XY013NV	024XY006NV	025XY019NV
Potential production (lb acre)					
Favorable years		800	4500	1500	800
Normal years		600	3500	1100	600
Unfavorable years		400	2000	600	400

582--KELK-DEVILSGAIT-WELCH ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		KELK	DEVILSGAIT	WELCH	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	---	5-10	5-10	5-10	---	---
Sandberg bluegrass	POSE	2-5	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	15-25	---	---	---	15-25	15-25
alpine timothy	PHAL2	---	---	5-10	---	---	---
basin wildrye	ELCI2	---	60-70	---	60-70	---	---
bluebunch wheatgrass	AGSP	25-40	---	---	---	25-40	25-40
mat muhly	MURI	---	2-8	---	2-8	---	---
sedge	CAREX	---	---	5-10	---	---	---
streambank wheatgrass	AGDAR	---	2-8	---	2-8	---	---
tufted hairgrass	DECE	---	---	30-60	---	---	---
Sierra clover	TRWO	---	---	2-5	---	---	---
cinquefoil	POTEN	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	---	---	15-25	15-25
basin big sagebrush	ARTRT	---	5-10	---	5-10	---	---
Range site number		025XY019NV	025XY003NV	025XY005NV	025XY003NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		800	4500	3000	4500	800	800
Normal years		600	3500	1700	3500	600	600
Unfavorable years		400	2000	1000	2000	400	400

585--VALMY-LUAP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		VALMY	LUAP	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	2-5	2-5	10-20	15-25	20-30
bottlebrush squirreltail	SIHY	2-5	2-5	5-15	5-10	5-10
other perennial grasses	PPGG	---	---	---	2-5	---
globemallow	SPHAE	---	---	---	2-5	---
black greasewood	SAVE4	20-30	20-30	---	---	---
bud sagebrush	ARSP5	2-10	2-10	10-25	2-8	---
fourwing saltbush	ATCA2	---	---	---	2-5	---
shadscale	ATCO	20-50	20-50	40-50	---	---
sickle saltbush	ATFA	---	---	---	---	50-60
winterfat	EULA5	---	---	---	40-50	---
Range site number		028BY074NV	028BY074NV	028BY017NV	028BY013NV	024XY012NV
Potential production (lb/acre):						
Favorable years		600	600	400	700	700
Normal years		400	400	300	500	400
Unfavorable years		200	200	200	350	200

590--VALMY-ENKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		VALMY	ENKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5	---	---	---	---	5-15
Sandberg bluegrass	POSE	---	2-5	2-5	---	2-5	---
Thurber needlegrass	STTH2	---	15-25	15-25	---	15-25	15-30
basin wildrye	ELCI2	5-20	---	---	15-20	---	---
bluebunch wheatgrass	AGSP	---	25-40	25-40	---	25-40	---
bottlebrush squirreltail	SIHY	2-5	---	---	2-10	---	---
inland saltgrass	DISPS2	---	---	---	2-8	---	---
globemallow	SPHAE	1-2	---	---	---	---	2-5
thelypody	THELY	2-4	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	15-25	15-25	---	15-25	---
big sagebrush	ARTR2	10-25	---	---	---	---	---
black greasewood	SAVE4	20-30	---	---	50-65	---	---
black sagebrush	ARARN	---	---	---	---	---	25-35
spiny hopsage	GRSP	5-15	---	---	---	---	---
Range site number		024XY022NV	025XY019NV	025XY019NV	024XY008NV	025XY019NV	024XY030NV
Potential production (lb/acre):							
Favorable years		800	800	800	700	800	500
Normal years		600	600	600	450	600	350
Unfavorable years		350	400	400	300	400	250

610--GRINA-GOCHEA ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		GRINA	GOCHEA	Inclusion 1	Inclusion 2
Idaho fescue	FEID	---	---	30-40	2-5
Indian ricegrass	ORHY	X	---	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-5
Sandberg bluegrass	POSE	X	---	---	---
Thurber needlegrass	STTH2	X	10-20	---	2-8
basin wildrye	ELCI2	---	2-8	2-10	5-10
bluebunch wheatgrass	AGSP	X	20-35	15-30	50-60
bluegrass	POA++	---	2-10	---	---
bottlebrush squirreltail	SIHY	X	---	---	---
milkvetch	ASTRA	X	---	---	---
phlox	PHLOX	X	---	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	---
tapertip hawksbeard	CRAC2	---	---	2-5	---
Wyoming big sagebrush	ARTRW	X	---	---	---
antelope bitterbrush	PUTR2	X	2-8	5-10	2-10
big sagebrush	ARTR2	---	10-20	---	---
mountain big sagebrush	ARVA2	---	---	10-20	5-15
Utah juniper	JUOS	X	---	---	---
Range site number		025XY059NV	025XY014NV	025XY012NV	025XY009NV
Potential production (lb acre):					
Favorable years		500	1000	1400	1300
Normal years		350	800	1000	900
Unfavorable years		200	600	700	700

620--VADAHO-VADAHO, STRONGLY SLOPING ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		VADAHO	VADAHO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	---	15-30	---
Nevada bluegrass	PONE3	---	---	---	5-10	---	---
Thurber needlegrass	STTH2	10-20	10-20	5-15	---	---	10-20
basin wildrye	ELCI2	2-8	2-8	2-5	60-70	2-8	2-8
bluebunch wheatgrass	AGSP	20-35	20-35	60-80	---	---	20-35
bluegrass	POA++	2-10	2-10	---	---	---	2-10
bottlebrush squirreltail	SIHY	---	---	---	---	5-10	---
mat muhly	MURI	---	---	---	2-8	---	---
streambank wheatgrass	AGDAR	---	---	---	2-8	---	---
Wyoming big sagebrush	ARTRW	---	---	5-15	---	15-30	---
antelope bitterbrush	PUTR2	2-8	2-8	1-5	---	2-8	2-8
basin big sagebrush	ARTRT	---	---	---	5-10	---	---
big sagebrush	ARTR2	10-20	10-20	---	---	---	10-20
black sagebrush	ARARN	---	---	---	---	10-20	---
spiny hopsage	GRSP	---	---	---	---	2-5	---
Range site number		025XY014NV	025XY014NV	025XY015NV	025XY003NV	025XY025NV	025XY014NV
Potential production (lb/acre):							
Favorable years		1000	1000	1000	4500	500	1000
Normal years		800	800	700	3500	350	800
Unfavorable years		600	600	500	2000	200	600

621--VADAHO-VADAHO, MODERATELY STEEP-STAMPEDE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		VADAHO	VADAHO	STAMPEDE	Inclusion 1	Inclusion 2
Thurber needlegrass	STTH2	10-20	10-20	10-20	10-20	10-20
basin wildrye	ELCI2	2-8	2-8	2-8	2-8	2-8
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	20-35	20-35
bluegrass	POA++	2-10	2-10	2-10	2-10	2-10
antelope bitterbrush	PUTR2	2-8	2-8	2-8	2-8	2-8
big sagebrush	ARTR2	10-20	10-20	10-20	10-20	10-20
Range site number		025XY014NV	025XY014NV	025XY014NV	025XY014NV	025XY014NV
Potential production (lb acre):						
Favorable years		1000	1000	1000	1000	1000
Normal years		800	800	800	800	800
Unfavorable years		600	600	600	600	600

631--PERNTY-MCIVEY-GOLLAHER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		PERNTY	MCIVEY	GOLLAHER	Inclusion 1	Inclusion 2
Idaho fescue	FEID	30-40	30-40	---	2-5	---
Indian ricegrass	ORHY	---	---	2-8	---	X
Nevada bluegrass	PONE3	2-5	2-5	---	2-5	---
Thurber needlegrass	STTH2	---	---	10-20	2-8	X
basin wildrye	ELCI2	2-10	2-10	---	5-10	X
bluebunch wheatgrass	AGSP	15-30	15-30	30-40	50-60	X
bluegrass	POA++	---	---	---	---	X
bottlebrush squirreltail	SIHY	---	---	---	---	X
arrowleaf balsamroot	BASA3	2-5	2-5	---	---	X
tapertip hawksbeard	CRAC2	2-5	2-5	---	---	X
Stansbury cliffrose	COMES	---	---	---	---	X
antelope bitterbrush	PUTR2	5-10	5-10	---	2-10	X
black sagebrush	ARARN	---	---	20-30	---	X
curlleaf mountainmahogany	CELE3	---	---	---	---	X
mountain big sagebrush	ARVA2	10-20	10-20	---	5-15	---
serviceberry	AMELA	---	---	---	---	X
Utah juniper	JUOS	---	---	---	---	X
singleleaf pinyon	PIMO	--	---	---	---	X
Range site number		025XY012NV	025XY012NV	025XY057NV	025XY009NV	028BY060NV
Potential production (lb/acre):						
Favorable years		1400	1400	700	1300	500
Normal years		1000	1000	500	900	300
Unfavorable years		700	700	300	700	250

632--PERNTY-SUMINE-SHALCLEAV ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		PERNTY	SUMINE	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	---	2-5
Idaho fescue	FEID	30-40	2-5	---	40-60	---	5-15	2-10
Indian ricegrass	ORHY	---	---	2-8	---	X	---	---
Nevada bluegrass	PONE3	2-5	2-5	---	2-8	---	---	2-5
Thurber needlegrass	STTH2	---	2-8	10-20	---	X	---	---
basin wildrye	ELCI2	2-10	5-10	---	2-8	X	---	---
bluebunch wheatgrass	AGSP	15-30	50-60	30-40	5-15	X	2-10	2-5
bluegrass	POA++	---	---	---	---	X	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	X	---	---
mountain brome	BRCA5	---	---	---	---	---	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	---	2-10
arrowleaf balsamroot	BASA3	2-5	---	---	---	X	---	---
tapertip hawksbeard	CRAC2	2-5	---	---	---	X	---	---
Stansbury cliffrose	COMES	---	---	---	---	X	---	---
Utah serviceberry	AMUT	---	---	---	---	---	---	1-5
antelope bitterbrush	PUTR2	5-10	2-10	---	---	X	2-8	1-5
basin big sagebrush	ARTRT	---	---	---	10-20	---	---	---
black sagebrush	ARARN	---	---	20-30	---	X	---	---
common chokecherry	PRVI	---	---	---	---	---	---	1-5
curlleaf mountainmahogany	CELE3	---	---	---	---	X	---	---
mountain big sagebrush	ARVA2	10-20	5-15	---	---	---	2-5	5-15
serviceberry	AMELA	---	---	---	---	X	40-50	---
snowberry	SYMPH	---	---	---	---	---	2-8	2-15
Utah juniper	JUOS	---	---	---	---	X	---	---
singleleaf pinyon	PIMO	---	---	---	---	X	---	---

Range site number	025XY012NV	025XY009NV	025XY057NV	025XY027NV	028BY060NV	025XY046NV	025XY004NV
Potential production (lb/acre):							
Favorable years	1400	1300	700	1300	500	1800	2800
Normal years	1000	900	500	900	300	1300	1800
Unfavorable years	700	700	300	500	250	900	1200

633--PERNTY-TWEENER-ROCK OUTCROP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PERNTY	TWEENER	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-40	15-30	---	---	5-15	30-40
Indian ricegrass	ORHY	---	---	---	2-5	---	---
Nevada bluegrass	PONE3	2-5	---	---	---	---	2-5
Thurber needlegrass	STTH2	---	2-5	---	5-10	---	---
basin wildrye	ELCI2	2-10	---	---	---	---	2-10
bluebunch wheatgrass	AGSP	15-30	10-20	---	5-10	---	15-30
bluegrass	POA++	---	---	---	2-8	---	---
bottlebrush squirreltail	SIHY	---	---	---	2-5	---	---
mountain brome	BRCA5	---	---	---	---	2-5	---
sedge	CAREX	---	---	---	---	2-8	---
slender wheatgrass	AGTR	---	---	---	---	2-5	---
spike-fescue	LEKI2	---	---	---	---	20-30	---
arrowleaf balsamroot	BASA3	2-5	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	2-5	---	---	---	---	2-5
antelope bitterbrush	PUTR2	5-10	20-40	---	---	---	5-10
eriogonum	ERIOG	---	---	---	---	2-5	---
mountain big sagebrush	ARVA2	10-20	5-10	---	2-5	15-25	10-20
curlleaf mountainmahogany	CELE3	---	---	---	50-70	---	---
Range site number		025XY012NV	025XY007NV	none	028BY042NV	025XY076NV	025XY012NV
Potential production (lb/acre):							
Favorable years		1400	2300		3000	1000	1400
Normal years		1000	1400		2400	700	1000
Unfavorable years		700	900		1700	400	700

651--SCALFAR-CLEAVAGE-HACKWOOD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SCALFAR	CLEAVAGE	HACKWOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	5-30	5-30	X	2-10	15-30	5-15	---
Nevada bluegrass	PONE3	---	---	---	2-5	---	---	5-10
Thurber needlegrass	STTH2	---	---	---	---	2-5	---	---
alpine timothy	PHAL2	---	---	---	---	---	---	5-10
bluebunch wheatgrass	AGSP	---	---	---	2-5	10-20	2-10	---
bluegrass	POA++	5-15	5-15	---	---	---	---	---
horsemint giant hyssop	AGUR	---	---	X	---	---	---	---
mountain brome	BRCA5	---	---	X	5-15	---	---	---
sedge	CAREX	---	---	---	---	---	---	5-10
slender wheatgrass	AGTR	---	---	X	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---	---
tufted hairgrass	DECE	---	---	---	---	---	---	30-60
Sierra clover	TRWO	---	---	---	---	---	---	2-5
cinquefoil	POTEN	---	---	---	---	---	---	2-5
goldenweed	HAPLO2	2-5	2-5	---	---	---	---	---
groundsel	SENEC	---	---	X	---	---	---	---
Utah serviceberry	AMUT	---	---	X	1-5	---	---	---
antelope bitterbrush	PUTR2	---	---	---	1-5	20-40	2-8	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	5-10	2-5	---
sagebrush	ARTEM	30-35	30-35	---	---	---	---	---
serviceberry	AMELA	---	---	---	---	---	40-50	---
snowberry	SYMPH	---	---	X	2-15	---	2-8	---
quaking aspen	POTRT	---	---	X	---	---	---	---

Range site number	025XY024NV	025XY024NV	025XY065NV	025XY004NV	025XY007NV	025XY046NV	025XY005NV
Potential production (lb/acre):							
Favorable years	400	400	800	2800	2300	1800	3000
Normal years	275	275	600	1800	1400	1300	1700
Unfavorable years	150	150	400	1200	900	900	1000

652--SCALFAR-SHALCLEAV-QUOPANT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		SCALFAR	SHALCLEAV	QUOPANT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	5-30	---	---	2-10	2-5	40-60	---
Indian ricegrass	ORHY	---	2-8	2-5	---	---	---	2-8
Nevada bluegrass	PONE3	---	---	---	2-5	2-5	2-8	---
Thurber needlegrass	STTH2	---	10-20	10-20	---	2-8	---	10-20
basin wildrye	ELCI2	---	---	---	---	5-10	2-8	---
bluebunch wheatgrass	AGSP	---	30-40	20-35	2-5	50-60	5-15	30-40
bluegrass	POA++	5-15	---	---	---	---	---	---
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---	---
goldenweed	HAPLO2	2-5	---	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	---	---	1-5	2-10	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	10-20	---
black sagebrush	ARARN	---	20-30	25-35	---	---	---	20-30
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	5-15	---	---
sagebrush	ARTEM	30-35	---	---	---	---	---	---
snowberry	SYMPH	---	---	---	2-15	---	---	---

Range site number	025XY024NV	025XY057NV	024XY031NV	025XY004NV	025XY009NV	025XY027NV	025XY057NV
Potential production (lb/acre):							
Favorable years	400	700	700	2800	1300	1300	700
Normal years	275	500	500	1800	900	900	500
Unfavorable years	150	300	300	1200	700	500	300

655--SCALFAR-HAPGOOD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SCALFAR	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-5	---	---	---	---
Idaho fescue	FEID	5-30	2-10	---	30-40	X	---
Indian ricegrass	ORHY	---	---	2-8	---	---	---
Nevada bluegrass	PONE3	---	2-5	---	2-5	---	---
Thurber needlegrass	STTH2	---	---	10-20	---	---	---
basin wildrye	ELCI2	---	---	---	2-10	---	---
bluebunch wheatgrass	AGSP	---	2-5	30-40	15-30	---	---
bluegrass	POA++	5-15	---	---	---	---	---
horsemint giant hyssop	AGUR	---	--	---	---	X	---
mountain brome	BRCA5	---	5-15	---	---	X	---
slender wheatgrass	AGTR	---	5-15	---	---	X	---
spike-fescue	LEKI2	---	2-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---
goldenweed	HAPLO2	2-5	---	---	---	---	---
groundsel	SENEC	---	---	---	---	X	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---
Utah serviceberry	AMUT	---	1-5	---	---	X	---
antelope bitterbrush	PUTR2	---	1-5	---	5-10	---	---
black sagebrush	ARARN	---	---	20-30	---	---	---
common chokecherry	PRVI	---	1-5	---	---	---	---
mountain big sagebrush	ARVA2	---	5-15	---	10-20	---	---
sagebrush	ARTEM	30-35	---	---	---	---	---
snowberry	SYMPH	---	2-15	---	---	X	---
snowbrush ceanothus	CEVE	---	---	---	---	---	70-80
quaking aspen	POTRT	---	---	---	---	X	---

Range site number	025XY024NV	025XY004NV	025XY057NV	025XY012NV	025XY065NV	025XY052NV
Potential production (lb/acre):						
Favorable years	400	2800	700	1400	800	2800
Normal years	275	1800	500	1000	600	2000
Unfavorable years	150	1200	300	700	400	1700

656--SCALFAR-FENELON-BOOFORD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SCALFAR	FENELON	BOOFORD	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	---	2-5
Idaho fescue	FEID	---	---	15-30	---	---	2-10
Indian ricegrass	ORHY	2-8	2-5	---	X	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5
Thurber needlegrass	STTH2	10-20	10-20	2-5	X	10-20	---
basin wildrye	ELCI2	---	---	---	---	2-8	---
bluebunch wheatgrass	AGSP	30-40	20-35	10-20	X	20-35	2-5
bluegrass	POA++	---	---	---	X	2-10	---
mountain brome	BRCA5	---	---	---	---	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	2-10
goldenweed	HAPLO2	---	---	---	X	---	---
phlox	PHLOX	---	---	---	X	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5
antelope bitterbrush	PUTR2	---	---	20-40	---	2-8	1-5
big sagebrush	ARTR2	---	---	---	---	10-20	---
black sagebrush	ARARN	20-30	25-35	---	X	---	---
common chokecherry	PRVI	---	---	---	---	---	1-5
downy rabbitbrush	CHVIP4	---	---	---	X	---	---
mountain big sagebrush	ARVA2	---	---	5-10	---	---	5-15
snowberry	SYMPH	---	---	---	---	---	2-15
Utah juniper	JUOS	---	---	---	X	---	---

Range site number	025XY057NV	024XY031NV	025XY007NV	025XY060NV	025XY014NV	025XY004NV
Potential production (lb/acre):						
Favorable years	700	700	2300	400	1000	2800
Normal years	500	500	1400	275	800	1800
Unfavorable years	300	300	900	150	600	1200

660--HOOPLITE, STEEP-HOOPLITE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HOOPLITE	HOOPLITE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	2-8	2-8	---	---	2-5
Sandberg bluegrass	POSE	---	---	2-5	---	---
Thurber needlegrass	STTH2	10-20	10-20	5-15	10-20	---
basin wildrye	ELCI2	---	---	---	2-8	5-20
bluebunch wheatgrass	AGSP	30-40	30-40	25-35	20-35	---
bluegrass	POA++	---	---	---	2-10	---
bottlebrush squirreltail	SIHY	---	---	---	---	2-5
globemallow	SPHAE	---	---	---	---	1-2
tapertip hawksbeard	CRAC2	---	---	2-5	---	---
thelypody	THELY	---	---	---	---	2-4
antelope bitterbrush	PUTR2	---	---	---	2-8	---
big sagebrush	ARTR2	---	---	---	10-20	10-25
black greasewood	SAVE4	---	---	---	---	20-30
black sagebrush	ARARN	20-30	20-30	25-35	---	---
spiny hopsage	GRSP	---	---	---	---	5-15
Range site number		025XY057NV	025XY057NV	025XY055NV	025XY014NV	024XY022NV
Potential production (lb/acre).						
Favorable years		700	700	500	1000	800
Normal years		500	500	375	800	600
Unfavorable years		300	300	250	600	350

661--HOOPLITE-HOOPLITE, MODERATELY STEEP-ACKETT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HOOPLITE	HOOPLITE	ACKETT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-8	2-8	5-15	5-15	---	2-5	---
Thurber needlegrass	STTH2	10-20	10-20	15-30	15-30	10-20	---	---
basin wildrye	ELCI2	---	---	---	---	2-8	5-20	---
bluebunch wheatgrass	AGSP	30-40	30-40	---	---	20-35	---	---
bluegrass	POA++	---	---	---	---	2-10	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5	---
globemallow	SPHAE	---	---	2-5	2-5	---	1-2	---
thelypody	THELY	---	---	---	---	---	2-4	---
antelope bitterbrush	PUTR2	---	---	---	---	2-8	---	---
big sagebrush	ARTR2	---	---	---	---	10-20	10-25	---
black greasewood	SAVE4	---	---	---	---	---	20-30	---
black sagebrush	ARARN	20-30	20-30	25-35	25-35	---	---	---
spiny hopsage	GRSP	---	---	---	---	---	5-15	---
Range site number		025XY057NV	025XY057NV	024XY030NV	024XY030NV	025XY014NV	024XY022NV	none
Potential production (lb/acre):								
Favorable years		700	700	500	500	1000	800	
Normal years		500	500	350	350	800	600	
Unfavorable years		300	300	250	250	600	350	

662--HOOPLITE-PEEKO-ZAPA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HOOPLITE	PEEKO	ZAPA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-8	5-15	5-15	---	5-15	---	5-15
Sandberg bluegrass	POSE	---	---	---	2-5	---	2-5	---
Thurber needlegrass	STTH2	10-20	15-30	15-30	15-25	15-30	15-25	15-30
bluebunch wheatgrass	AGSP	30-40	---	---	25-40	---	25-40	---
globemallow	SPHAE	---	2-5	2-5	---	2-5	---	2-5
Wyoming big sagebrush	ARTRW	---	---	---	15-25	---	15-25	---
black sagebrush	ARARN	20-30	25-35	25-35	---	25-35	---	25-35
Range site number		025XY057NV	024XY030NV	024XY030NV	025XY019NV	024XY030NV	025XY019NV	024XY030NV
Potential production (lb/acre):								
Favorable years		700	500	500	800	500	800	500
Normal years		500	350	350	600	350	600	350
Unfavorable years		300	250	250	400	250	400	250

664--HOOPLITE-HOOPLITE, MODERATELY STEEP-KRAM ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HOOPLITE	HOOPLITE	KRAM	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-8	2-8	X	5-15	X	---	X
Thurber needlegrass	STTH2	10-20	10-20	X	15-30	X	10-20	X
basin wildrye	ELCI2	---	---	---	---	---	2-8	---
bluebunch wheatgrass	AGSP	30-40	30-40	X	---	X	20-35	X
bluegrass	POA++	---	---	X	---	X	2-10	X
globemallow	SPHAE	---	---	---	2-5	---	---	---
goldenweed	HAPLO2	---	---	X	---	X	---	X
phlox	PHLOX	---	---	X	---	X	---	X
antelope bitterbrush	PUTR2	---	---	---	---	---	2-8	---
big sagebrush	ARTR2	---	---	---	---	---	10-20	---
black sagebrush	ARARN	20-30	20-30	X	25-35	X	---	X
downy rabbitbrush	CHVIP4	---	---	X	---	X	---	X
Utah juniper	JUOS	---	---	X	---	X	---	X
Range site number		025XY057NV	025XY057NV	025XY060NV	024XY030NV	025XY060NV	025XY014NV	025XY060NV
Potential production (lb/acre):								
Favorable years		700	700	400	500	400	1000	400
Normal years		500	500	275	350	275	800	275
Unfavorable years		300	300	150	250	150	600	150

665--HOOPLITE, MODERATELY STEEP-HOOPLITE-IZAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HOOPLITE	HOOPLITE	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-8	2-8	5-15	---	---	---	---
Sandberg bluegrass	POSE	---	---	---	2-5	---	2-5	---
Thurber needlegrass	STTH2	10-20	10-20	15-30	15-25	5-15	15-25	---
basin wildrye	ELCI2	---	---	---	---	2-5	---	---
bluebunch wheatgrass	AGSP	30-40	30-40	---	25-40	60-80	25-40	---
globemallow	SPHAE	---	---	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	15-25	5-15	15-25	---
antelope bitterbrush	PUTR2	---	---	---	---	1-5	---	---
black sagebrush	ARARN	20-30	20-30	25-35	---	---	---	---
Range site number		025XY057NV	025XY057NV	024XY030NV	025XY019NV	025XY015NV	025XY019NV	none
Potential production (lb/acre):								
Favorable years		700	700	500	800	1000	800	
Normal years		500	500	350	600	700	600	
Unfavorable years		300	300	250	400	500	400	

666--HOOPLITE-HOOPLITE, MODERATELY STEEP-KLECKNER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions		
		Soil name or Inclusion number--		
		HOOPLITE	HOOPLITE	KLECKNER
Indian ricegrass	ORHY	2-8	2-8	---
Thurber needlegrass	STTH2	10-20	10-20	10-20
basin wildrye	ELCI2	---	---	2-8
bluebunch wheatgrass	AGSP	30-40	30-40	20-35
bluegrass	POA++	---	---	2-10
antelope bitterbrush	PUTR2	---	---	2-8
big sagebrush	ARTR2	---	---	10-20
black sagebrush	ARARN	20-30	20-30	---
Range site number		025XY057NV	025XY057NV	025XY014NV
Potential production (lb/acre):				
Favorable years		700	700	1000
Normal years		500	500	800
Unfavorable years		300	300	600

670--ACKETT-KLECKNER-ANOWELL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ACKETT	KLECKNER	ANOWELL	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	---	2-5	5-15	2-8	---	2-5
Sandberg bluegrass	POSE	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	15-30	10-20	10-20	15-30	10-20	5-15	---
basin wildrye	ELCI2	---	2-8	---	---	---	---	5-20
bluebunch wheatgrass	AGSP	---	20-35	20-35	---	30-40	25-35	---
bluegrass	POA++	---	2-10	---	---	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	---	2-5
globemallow	SPHAE	2-5	---	---	2-5	---	---	1-2
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5	---
thelypody	THELY	---	---	---	---	---	---	2-4
antelope bitterbrush	PUTR2	---	2-8	---	---	---	---	---
big sagebrush	ARTR2	---	10-20	---	---	---	---	10-25
black greasewood	SAVE4	---	---	---	---	---	---	20-30
black sagebrush	ARARN	25-35	---	25-35	25-35	20-30	25-35	---
spiny hopsage	GRSP	---	---	---	---	---	---	5-15
Range site number		024XY030NV	025XY014NV	024XY031NV	024XY030NV	025XY057NV	025XY055NV	024XY022NV
Potential production (lb/acre):								
Favorable years		500	1000	700	500	700	500	800
Normal years		350	800	500	350	500	375	600
Unfavorable years		250	600	300	250	300	250	350

672--ACKETT-ACKETT, GENTLY SLOPING-CAMEEK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ACKETT	ACKETT	CAMEEK	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	5-15	---	---	5-15
Sandberg bluegrass	POSE	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	15-30	15-30	10-20	15-30	10-20	15-25	15-30
basin wildrye	ELCI2	---	---	2-8	---	2-8	---	---
bluebunch wheatgrass	AGSP	---	---	20-35	---	20-35	25-40	---
bluegrass	POA++	---	---	2-10	---	2-10	---	---
globemallow	SPHAE	2-5	2-5	---	2-5	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	---	---	---	15-25	---
antelope bitterbrush	PUTR2	---	---	2-8	---	2-8	---	---
big sagebrush	ARTR2	---	---	10-20	---	10-20	---	---
black sagebrush	ARARN	25-35	25-35	---	25-35	---	---	25-35
Range site number		024XY030NV	024XY030NV	025XY014NV	024XY030NV	025XY014NV	025XY019NV	024XY030NV
Potential production (lb/acre):								
Favorable years		500	500	1000	500	1000	800	500
Normal years		350	350	800	350	800	600	350
Unfavorable years		250	250	600	250	600	400	250

673--ACKETT-ACKETT, GENTLY SLOPING-GANCE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ACKETT	ACKETT	GANCE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	---	5-15	---	---
Sandberg bluegrass	POSE	---	---	2-5	2-10	---	2-5	---
Thurber needlegrass	STTH2	15-30	15-30	15-25	10-20	15-30	15-25	5-15
Webber needlegrass	STWE	---	---	---	5-10	---	---	---
basin wildrye	ELCI2	---	---	---	---	---	---	2-5
bluebunch wheatgrass	AGSP	---	---	25-40	20-30	---	25-40	60-80
balsamroot	BALSA	---	---	---	2-5	---	---	---
globemallow	SPHAE	2-5	2-5	---	---	2-5	---	---
Wyoming big sagebrush	ARTRW	---	---	15-25	---	---	15-25	5-15
antelope bitterbrush	PUTR2	---	---	---	---	---	---	1-5
black sagebrush	ARARN	25-35	25-35	---	---	25-35	---	---
low sagebrush	ARAR8	---	---	---	25-35	---	---	---
Range site number		024XY030NV	024XY030NV	025XY019NV	025XY022NV	024XY030NV	025XY019NV	025XY015NV
Potential production (lb/acre):								
Favorable years		500	500	800	600	500	800	1000
Normal years		350	350	600	400	350	600	700
Unfavorable years		250	250	400	250	250	400	500

674--ACKETT-ZAPA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		ACKETT	ZAPA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	---	---	5-15
Nevada bluegrass	PONE3	---	---	---	5-10	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	10-15
Thurber needlegrass	STTH2	15-30	15-30	5-15	---	15-25	---
Webber needlegrass	STWE	---	---	---	---	---	2-5
basin wildrye	ELCI2	---	---	2-5	60-70	---	---
bluebunch wheatgrass	AGSP	---	---	60-80	---	25-40	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5
mat muhly	MURI	---	---	---	2-8	---	---
streambank wheatgrass	AGDAR	---	---	---	2-8	---	---
eriogonum	ERIOG	---	---	---	---	---	2-5
globemallow	SPHAE	2-5	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	2-5
phlox	PHLOX	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	5-15	---	15-25	---
antelope bitterbrush	PUTR2	---	---	1-5	---	---	---
basin big sagebrush	ARTRT	---	---	---	5-10	---	---
black sagebrush	ARARN	25-35	25-35	---	---	---	30-40
bud sagebrush	ARSP5	---	---	---	---	---	5-10

Range site number	024XY030NV	024XY030NV	025XY015NV	025XY003NV	025XY019NV	025XY026NV
Potential production (lb/acre):						
Favorable years	500	500	1000	4500	800	200
Normal years	350	350	700	3500	600	100
Unfavorable years	250	250	500	2000	400	75

678--IZAR, MODERATELY STEEP-IZAR ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		IZAR	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	X	2-5	---
Sandberg bluegrass	POSE	---	---	2-5	---	---	2-5
Thurber needlegrass	STTH2	15-30	15-30	15-25	X	---	15-25
basin wildrye	ELCI2	---	---	---	---	5-20	---
bluebunch wheatgrass	AGSP	---	---	25-40	X	---	25-40
bluegrass	POA++	---	---	---	X	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	2-5	---
globemallow	SPHAE	2-5	2-5	---	---	1-2	---
goldenweed	HAPLO2	---	---	---	X	---	---
phlox	PHLOX	---	---	---	X	---	---
thelypody	THELY	---	---	---	---	2-4	---
Wyoming big sagebrush	ARTRW	---	---	15-25	---	---	15-25
big sagebrush	ARTR2	---	---	---	---	10-25	---
black greasewood	SAVE4	---	---	---	---	20-30	---
black sagebrush	ARARN	25-35	25-35	---	X	---	---
downy rabbitbrush	CHVIP4	---	---	---	X	---	---
spiny hopsage	GRSP	---	---	---	---	5-15	---
Utah juniper	JUOS	---	---	---	X	---	---

Range site number	024XY030NV	024XY030NV	025XY019NV	025XY060NV	024XY022NV	025XY019NV
Potential production (lb/acre):						
Favorable years	500	500	800	400	800	800
Normal years	350	350	600	275	600	600
Unfavorable years	250	250	400	150	350	400

679--IZAR-DEWAR-IZAR, MODERATELY STEEP ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		IZAR	DEWAR	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	---	5-15	---	---	5-15	X
Sandberg bluegrass	POSE	---	2-5	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	15-30	15-25	15-30	15-25	15-25	15-30	X
bluebunch wheatgrass	AGSP	---	25-40	---	25-40	25-40	---	X
bluegrass	POA++	---	---	---	---	---	---	X
globemallow	SPHAE	2-5	---	2-5	---	---	2-5	---
goldenweed	HAPLO2	---	---	---	---	---	---	X
phlox	PHLOX	---	---	---	---	---	---	X
Wyoming big sagebrush	ARTRW	---	15-25	---	15-25	15-25	---	---
black sagebrush	ARARN	25-35	---	25-35	---	---	25-35	X
downy rabbitbrush	CHVIP4	---	---	---	---	---	---	X
Utah juniper	JUOS	---	---	---	---	---	---	X
Range site number		024XY030NV	025XY019NV	024XY030NV	025XY019NV	025XY019NV	024XY030NV	025XY060NV
Potential production (lb/acre):								
Favorable years		500	800	500	800	800	500	400
Normal years		350	600	350	600	600	350	275
Unfavorable years		250	400	250	400	400	250	150

680--IZAR-HOLBORN-KZIN ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		IZAR	HOLBORN	KZIN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	20-35	10-25	X	20-30	15-30	20-35	20-30
Sandberg bluegrass	POSE	2-8	2-5	---	2-5	---	2-8	2-5
Thurber needlegrass	STTH2	---	---	X	---	---	---	---
basin wildrye	ELCI2	---	---	X	---	2-8	---	---
bluebunch wheatgrass	AGSP	---	---	X	---	---	---	---
bluegrass	POA++	---	---	X	---	---	---	---
bottlebrush squirreltail	SIHY	2-5	---	X	2-8	5-10	2-5	2-8
galleta	HIJA	---	2-8	---	---	---	---	---
needleandthread	STCO4	5-15	2-10	---	10-20	---	5-15	10-20
arrowleaf balsamroot	BASA3	---	---	X	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	X	---	---	---	---
Stansbury cliffrose	COMES	---	---	X	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	25-35	15-30	---	25-35
antelope bitterbrush	PUTR2	---	---	X	---	2-8	---	---
black sagebrush	ARARN	25-35	15-30	X	---	10-20	25-35	---
curlleaf mountainmahogany	CELE3	---	---	X	---	---	---	---
downy rabbitbrush	CHVIP4	2-5	---	---	---	---	2-5	---
rabbitbrush	CHRYS9	---	---	---	2-5	---	---	2-5
serviceberry	AMELA	---	---	X	---	---	---	---
shadscale	ATCO	2-5	2-5	---	---	---	2-5	---
spiny hopsage	GRSP	---	---	---	---	2-5	---	---
winterfat	EULA5	---	5-10	---	---	---	---	---
Utah juniper	JUOS	---	---	X	---	---	---	---
singleleaf pinyon	PIMO	---	---	X	---	---	---	---

Range site number	028BY011NV	028AY004NV	028BY060NV	028BY010NV	025XY025NV	028BY011NV	028BY010NV
Potential production (lb/acre):							
Favorable years	600	500	500	800	500	600	800
Normal years	450	325	300	600	350	450	600
Unfavorable years	250	100	250	400	200	250	400

681--IZAR-LOOMIS-VANWYPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		IZAR	LOOMIS	VANWYPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	---	---	5-15	---
Sandberg bluegrass	POSE	---	---	---	2-5	2-5	10-15	2-5
Thurber needlegrass	STTH2	15-30	15-30	5-15	15-25	15-25	---	15-25
Webber needlegrass	STWE	---	---	---	---	---	2-5	---
basin wildrye	ELCI2	---	---	2-5	---	---	---	---
bluebunch wheatgrass	AGSP	---	---	60-80	25-40	25-40	---	25-40
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5	---
eriogonum	ERIOG	---	---	---	---	---	2-5	---
globemallow	SPHAE	2-5	2-5	---	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	2-5	---
phlox	PHLOX	---	---	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	5-15	15-25	15-25	---	15-25
antelope bitterbrush	PUTR2	---	---	1-5	---	---	---	---
black sagebrush	ARARN	25-35	25-35	---	---	---	30-40	---
bud sagebrush	ARSP5	---	---	---	---	---	5-10	---
Range site number		024XY030NV	024XY030NV	025XY015NV	025XY019NV	025XY019NV	025XY026NV	025XY019NV
Potential production (lb/acre):								
Favorable years		500	500	1000	800	800	200	800
Normal years		350	350	700	600	600	100	600
Unfavorable years		250	250	500	400	400	75	400

682--IZAR-ZAPA-PEEKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		IZAR	ZAPA	PEEKO	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	---	---	5-15
Indian ricegrass	ORHY	5-15	5-15	5-15	15-30	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	15-30	15-30	15-30	---	15-25	---
basin wildrye	ELCI2	---	---	---	2-8	---	2-8
bluebunch wheatgrass	AGSP	---	---	---	---	25-40	15-25
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---
mountain brome	BRCA5	---	---	---	---	---	5-10
globemallow	SPHAE	2-5	2-5	2-5	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	2-8
Wyoming big sagebrush	ARTRW	---	---	---	15-30	15-25	---
antelope bitterbrush	PUTR2	---	---	---	2-8	---	2-10
black sagebrush	ARARN	25-35	25-35	25-35	10-20	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20
spiny hopsage	GRSP	---	---	---	2-5	---	---
Range site number		024XY030NV	024XY030NV	024XY030NV	025XY025NV	025XY019NV	025XY042NV
Potential production (lb/acre):							
Favorable years		500	500	500	500	800	700
Normal years		350	350	350	350	600	500
Unfavorable years		250	250	250	200	400	300

683--IZAR-HOLBORN-HUNDRAW ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		IZAR	HOLBORN	HUNDRAW	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	10-25	X	5-15	5-15	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	2-5
Thurber needlegrass	STTH2	15-30	---	X	15-30	---	15-25
bluebunch wheatgrass	AGSP	---	---	X	---	---	25-40
bluegrass	POA++	---	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	5-10	---
galleta	HIJA	---	2-8	---	---	---	---
needleandthread	STCO4	---	2-10	---	---	---	---
globemallow	SPHAE	2-5	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	X	---	---	---
phlox	PHLOX	---	---	X	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	15-25
black sagebrush	ARARN	25-35	15-30	X	25-35	---	---
bud sagebrush	ARSP5	---	---	---	---	20-30	---
downy rabbitbrush	CHVIP4	---	---	X	---	---	---
shadscale	ATCO	---	2-5	---	---	30-40	---
spiny hopsage	GRSP	---	---	---	---	2-5	---
winterfat	EULA5	---	5-10	---	---	2-5	---
Utah juniper	JUOS	---	---	X	---	---	---
Range site number		024XY030NV	028AY004NV	025XY060NV	024XY030NV	024XY002NV	025XY019NV
Potential production (lb/acre):							
Favorable years		500	500	400	500	750	800
Normal years		350	325	275	350	450	600
Unfavorable years		250	100	150	250	300	400

684--IZAR-ROCK OUTCROP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		IZAR	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	20-35	---	10-20	20-35	20-30
Sandberg bluegrass	POSE	2-8	---	---	2-8	2-5
bottlebrush squirreltail	SIHY	2-5	---	5-15	2-5	2-8
needleandthread	STCO4	5-15	---	---	5-15	10-20
Wyoming big sagebrush	ARTRW	---	---	---	---	25-35
black sagebrush	ARARN	25-35	---	---	25-35	---
bud sagebrush	ARSP5	---	---	10-25	---	---
downy rabbitbrush	CHVIP4	2-5	---	---	2-5	---
rabbitbrush	CHRYS9	---	---	---	---	2-5
shadscale	ATCO	2-5	---	40-50	2-5	---
Range site number		028BY011NV	none	028BY017NV	028BY011NV	028BY010NV
Potential production (lb/acre)						
Favorable years		600		400	600	800
Normal years		450		300	450	600
Unfavorable years		250		200	250	400

685--IZAR-PUETT-YUKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		IZAR	PUETT	YUKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	15-30	---	---	---	---	---
Sandberg bluegrass	POSE	---	---	2-5	2-5	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-30	---	15-25	15-25	15-25	15-25	15-25
basin wildrye	ELCI2	---	2-8	---	---	---	---	---
bluebunch wheatgrass	AGSP	---	---	25-40	25-40	25-40	25-40	25-40
bottlebrush squirreltail	SIHY	---	5-10	---	---	---	---	---
globemallow	SPHAE	2-5	---	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	15-30	15-25	15-25	15-25	15-25	15-25
antelope bitterbrush	PUTR2	---	2-8	---	---	---	---	---
black sagebrush	ARARN	25-35	10-20	---	---	---	---	---
spiny hopsage	GRSP	---	2-5	---	---	---	---	---
Range site number		024XY030NV	025XY025NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb acre):								
Favorable years		500	500	800	800	800	800	800
Normal years		350	350	600	600	600	600	600
Unfavorable years		250	200	400	400	400	400	400

686--IZAR-VANWYPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		IZAR	VANWYPER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	5-30	2-5
Indian ricegrass	ORHY	5-15	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-5
Thurber needlegrass	STTH2	15-30	5-15	---	---	2-8
basin wildrye	ELCI2	---	2-5	---	---	5-10
bluebunch wheatgrass	AGSP	---	60-80	---	---	50-60
bluegrass	POA++	---	---	---	5-15	---
globemallow	SPHAE	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	5-15	---	---	---
antelope bitterbrush	PUTR2	---	1-5	---	---	2-10
black sagebrush	ARARN	25-35	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	5-15
sagebrush	ARTEM	---	---	---	30-35	---
Range site number		024XY030NV	025XY015NV	none	025XY024NV	025XY009NV
Potential production (lb acre):						
Favorable years		500	1000		400	1300
Normal years		350	700		275	900
Unfavorable years		250	500		150	700

687--IZAR-WIFFO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		IZAR	WIFFO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	20-35	20-30	15-25	15-25	20-30	15-25
Sandberg bluegrass	POSE	2-8	2-5	---	---	2-5	---
bottlebrush squirreltail	SIHY	2-5	2-8	5-10	2-5	2-8	2-5
needleandthread	STCO4	5-15	10-20	---	5-10	10-20	5-10
other perennial grasses	PPGG	---	---	2-5	---	---	---
globemallow	SPHAE	---	---	2-5	---	---	---
scarlet globemallow	SPCO	---	---	---	2-5	---	2-5
Wyoming big sagebrush	ARTRW	---	25-35	---	20-35	25-35	20-35
black sagebrush	ARARN	25-35	---	---	---	---	---
bud sagebrush	ARSP5	---	---	2-8	---	---	---
downy rabbitbrush	CHVIP4	2-5	---	---	---	---	---
fourwing saltbush	ATCA2	---	---	2-5	---	---	---
rabbitbrush	CHRYS9	---	2-5	---	---	2-5	---
shadscale	ATCO	2-5	---	---	2-5	---	2-5
spiny hopsage	GRSP	---	---	---	5-20	---	5-20
winterfat	EULA5	---	---	40-50	---	---	---
Range site number		028BY011NV	028BY010NV	028BY013NV	028BY052NV	028BY010NV	028BY052NV
Potential production (lb/acre):							
Favorable years		600	800	700	800	800	800
Normal years		450	600	500	600	600	600
Unfavorable years		250	400	350	450	400	450

688--IZAR-YUKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		IZAR	YUKO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	---	---	---	5-15
Sandberg bluegrass	POSE	---	2-5	2-5	2-5	---
Thurber needlegrass	STTH2	15-30	15-25	15-25	15-25	15-30
bluebunch wheatgrass	AGSP	---	25-40	25-40	25-40	---
globemallow	SPHAE	2-5	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	15-25	15-25	15-25	---
black sagebrush	ARARN	25-35	---	---	---	25-35
Range site number		024XY030NV	025XY019NV	025XY019NV	025XY019NV	024XY030NV
Potential production (lb/acre):						
Favorable years		500	800	800	800	500
Normal years		350	600	600	600	350
Unfavorable years		250	400	400	400	250

689--IZAR-ZAPA-PUETT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		IZAR	ZAPA	PUETT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	15-30	---	---	---	15-30
Sandberg bluegrass	POSE	---	---	---	---	2-5	---	---
Thurber needlegrass	STTH2	15-30	15-30	---	15-25	15-25	5-15	---
basin wildrye	ELCI2	---	---	2-8	---	---	2-5	5-10
bluebunch wheatgrass	AGSP	---	---	---	20-35	25-40	60-80	---
bottlebrush squirreltail	SIHY	---	---	5-10	---	---	---	---
needleandthread	STCO4	---	---	---	---	---	---	30-40
globemallow	SPHAE	2-5	2-5	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	15-30	20-30	15-25	5-15	---
antelope bitterbrush	PUTR2	---	---	2-8	2-5	---	1-5	---
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	25-35	25-35	10-20	---	---	---	---
spiny hopsage	GRSP	---	---	2-5	---	---	---	1-5

Range site number	024XY030NV	024XY030NV	025XY025NV	025XY021NV	025XY019NV	025XY015NV	024XY017NV
Potential production (lb/acre):							
Favorable years	500	500	500	600	800	1000	900
Normal years	350	350	350	400	600	700	700
Unfavorable years	250	250	200	250	400	500	500

690--OUPICO-OUPICO, MODERATELY STEEP-PEEKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		OUPICO	OUPICO	PEEKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	15-30	15-30	5-15	5-15	15-30	---	2-5
Thurber needlegrass	STTH2	---	---	15-30	15-30	---	5-15	10-20
basin wildrye	ELCI2	5-10	5-10	---	---	5-10	2-5	---
bluebunch wheatgrass	AGSP	---	---	---	---	---	60-80	20-35
needleandthread	STCO4	30-40	30-40	---	---	30-40	---	---
globemallow	SPHAE	---	---	2-5	2-5	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	5-15	---
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5	---
big sagebrush	ARTR2	15-25	15-25	---	---	15-25	---	---
black sagebrush	ARARN	---	---	25-35	25-35	---	---	25-35
spiny hopsage	GRSP	1-5	1-5	---	---	1-5	---	---
Range site number		024XY017NV	024XY017NV	024XY030NV	024XY030NV	024XY017NV	025XY015NV	024XY031NV
Potential production (lb/acre):								
Favorable years		900	900	500	500	900	1000	700
Normal years		700	700	350	350	700	700	500
Unfavorable years		500	500	250	250	500	500	300

691--OUPICO-ENKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		OUPICO	ENKO	Inclusion 1	Inclusion 2
Sandberg bluegrass	POSE	2-5	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	25-40
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	15-25
Range site number		025XY019NV	025XY019NV	025XY019NV	025XY019NV
Potential production (lb/acre):					
Favorable years		800	800	800	800
Normal years		600	600	600	600
Unfavorable years		400	400	400	400

700--XICA-SHALCLEAV-HAPGOOD ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		XICA	SHALCLEAV	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---	---
Idaho fescue	FEID	5-30	---	2-10	30-40	30-50	15-30	---
Indian ricegrass	ORHY	---	2-8	---	---	---	---	5-15
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	---	---
Sandberg bluegrass	POSE	---	---	---	---	---	---	10-15
Thurber needlegrass	STTH2	---	10-20	---	---	---	2-5	---
Webber needlegrass	STWE	---	---	---	---	---	---	2-5
basin wildrye	ELCI2	---	---	---	2-10	---	---	---
bluebunch wheatgrass	AGSP	---	30-40	2-5	15-30	15-30	10-20	---
bluegrass	POA++	5-15	---	---	---	2-10	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	---	2-5
mountain brome	BRCA5	---	---	5-15	---	---	---	---
slender wheatgrass	AGTR	---	---	5-15	---	---	---	---
spike-fescue	LEKI2	---	---	2-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---	---
eriogonum	ERIOG	---	---	---	---	---	---	2-5
goldenweed	HAPLO2	2-5	---	---	---	---	---	2-5
phlox	PHLOX	---	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---	---
Utah serviceberry	AMUT	---	---	1-5	---	---	---	---
antelope bitterbrush	PUTR2	---	---	1-5	5-10	2-5	20-40	---
black sagebrush	ARARN	---	20-30	---	---	---	---	30-40
bud sagebrush	ARSP5	---	---	---	---	---	---	5-10
common chokecherry	PRV1	---	---	1-5	---	---	---	---
low sagebrush	ARAR8	---	---	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	---	5-15	10-20	---	5-10	---
sagebrush	ARTEM	30-35	---	---	---	---	---	---
snowberry	SYMPH	---	---	2-15	---	---	---	---

Range site number	025XY024NV	025XY057NV	025XY004NV	025XY012NV	025XY017NV	025XY007NV	025XY026NV
Potential production (lb/acre)-							
Favorable years	400	700	2800	1400	900	2300	200
Normal years	275	500	1800	1000	700	1400	100
Unfavorable years	150	300	1200	700	400	900	75

701--XICA-XICA, STEEP-AGORT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		XICA	XICA	AGORT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-5	---
Idaho fescue	FEID	5-30	5-30	15-30	15-30	30-40	2-10	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	2-5	---
Thurber needlegrass	STTH2	---	---	2-5	2-5	---	---	5-10
basin wildrye	ELCI2	---	---	---	---	2-10	---	---
bluebunch wheatgrass	AGSP	---	---	10-20	10-20	15-30	2-5	10-20
bluegrass	POA++	5-15	5-15	---	---	---	---	---
mountain brome	BRCA5	---	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	---	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	---	2-10	---
arrowleaf balsamroot	BASA3	---	---	---	---	2-5	---	---
goldenweed	HAPLO2	2-5	2-5	---	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	2-5	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	---	20-40	20-40	5-10	1-5	5-15
common chokecherry	PRVI	---	---	---	---	---	1-5	---
mountain big sagebrush	ARVA2	---	---	5-10	5-10	10-20	5-15	5-15
oceanspray	HOLOD	---	---	---	---	---	---	15-30
sagebrush	ARTEM	30-35	30-35	---	---	---	---	---
snowberry	SYMPH	---	---	---	---	---	2-15	---

Range site number	025XY024NV	025XY024NV	025XY007NV	025XY007NV	025XY012NV	025XY004NV	025XY058NV
Potential production (lb/acre):							
Favorable years	400	400	2300	2300	1400	2800	700
Normal years	275	275	1400	1400	1000	1800	500
Unfavorable years	150	150	900	900	700	1200	350

[1] GEYSEN-WELCH-BATAN Asd Plate 2.

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or inclusion number						
		GEYSEN	WELCH	BATAN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5		2-5	---		---	15-20
Nevada bluegrass	PONE3	---	5-10	-	---	5-10	---	--
Sandberg bluegrass	POSE	---	--	---	---	-	2-5	--
Thurber needlegrass	STTHU		---	---	---		15-20	---
basin wildrye	ELCI2	5-10	5-10	5-10	55-65	5-10	---	2-5
bluebunch wheatgrass	AGSP	---	-	-	---	-	20-40	---
bottlebrush squirreltail	SIHY	2-5	- -	2-5	---	---	---	5-10
creeping wildrye	ELTR3		---	---	5-15	---	--	--
mat muhly	MURI	---	2-5	-	--	2-5	---	---
streambank wheatgrass	AGDA8	-	- -	---	---	2-5	---	--
western wheatgrass	AGSM	-			5-15	---	-	---
globemallow	SPHAE	1-2	--	- 2	---	--	---	-
thelypody	THELY	- 5		- 5		-	---	--
Wyoming big sagebrush	ARTRW			-	---	---	10-20	10-20
antelope bitterbrush	PUTR2				--	- -	---	2-5
basin big sagebrush	ARTR2		-	-	- 15	5-10	---	--
big sagebrush	ARTR2	- -	-	- 10		-	---	--
black greasewood	SA-84	-		-	- 5	-	---	---
black sagebrush	ARAR8		-				---	1-2
spiny hopsage	GRSP	5-10		5		-	---	2-5

Range site number	24XY 21X	25XY 20X	24XY 22XC	25XY 23XY	25XY 24XY	25XY 25XY	25XY 26XY
Potential production (lb/acre)							
Favorable years	75	40	-	1650	450	600	900
Normal years	-	25	-	1100	550	400	650
Unfavorable years	50	10	25	-	-	200	400

731--GEYSEN-CROOKED CREEK-BATAN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		GEYSEN	CROOKED CREE	BATAN	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	2-5	---	2-5	---	---	---
Nevada bluegrass	PONE3	---	5-10	---	---	---	---
Sandberg bluegrass	POSE	---	---	---	---	---	2-5
Thurber needlegrass	STTH2	---	---	---	---	---	15-25
alkali sacaton	SPAI	---	---	---	5-25	---	---
basin wildrye	ELCI2	5-20	60-70	5-20	50-60	15-20	---
bluebunch wheatgrass	AGSP	---	---	---	---	---	25-40
bottlebrush squirreltail	SIHY	2-5		2-5	---	2-10	---
inland saltgrass	DISPS2	---	---	---	---	2-8	---
mat muhly	MURI	---	2-5	---	---	---	---
streambank wheatgrass	AGDAR	---	2-5	---	---	---	---
globemallow	SPHAE	1-2	---	1-2	---	---	---
thelypody	THELY	2-4	---	2-4	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	15-25
basin big sagebrush	ARTRT	---	5-10	---	---	---	---
big sagebrush	ARTR2	10-25	---	10-25	---	---	---
black greasewood	SAVE4	20-30	---	2-5	5-15	50-65	---
rubber rabbitbrush	CHNA2	---	---	---	2-5	---	---
spiny hopsage	GRSP	5-15	---	5-15	---	---	---

Range site number	024XY022NV	025XY043NV	024XY022NV	024XY007NV	024XY008NV	025XY019NV
Potential production (lb acre						
Favorable years	800	4500	800	1400	700	800
Normal years	600	3500	600	1100	450	600
Unfavorable years	350	2000	350	600	300	400

74D--CLEAVAGE EXTREMELY GRAVELLY 1 AM-CLEAVAGE-TITABLE ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CLEAVAGE	CLEAVAGE	TITABLE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	5-15	5-15	4-8	---	2-5	---	---
Nevada bluegrass	PONE	---	---	2-8	---	2-5	---	---
Sandberg bluegrass	POSE	---	---	---	2-5	---	---	---
Thurber needlegrass	STTH	---	---	---	5-15	2-5	---	---
Basin wildrye	ELCI	---	---	2-8	---	5-15	---	---
Bluebunch wheatgrass	AGSP	---	15-25	5-15	25-35	5-15	---	20-30
Bluegrass	POA	5-15	5-15	---	---	---	---	---
Buttegrass	POFE	---	---	---	---	---	---	2-8
Needlegrass	STIPA	---	---	---	---	---	---	5-15
Goldenweed	HAPL	2-5	---	---	---	---	---	---
Tapertip hawksbeard	CRAC	---	---	---	2-5	---	---	---
Antelope bitterbrush	PUTR	---	5-15	---	---	2-10	---	---
Basin big sagebrush	ARTRT	---	---	10-20	---	---	---	---
Black sagebrush	ARAR	---	---	---	15-25	---	---	---
Low sagebrush	ARAR	---	15-25	---	---	---	---	---
Mountain big sagebrush	ARVA	---	---	---	---	5-15	---	15-25
Sagebrush	ARTEM	5-15	---	---	---	---	---	---
Strawberry	CHME	---	---	---	---	---	---	2-8
Snowbrush ceanothus	CEVE	---	---	---	---	---	70-80	---
Curlleaf mountain-mahogany	CELE	---	---	---	---	---	---	15-25

Range site name and number	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Favorable precipitation						
Favorable years	4	4	10	500	1300	2800	1700
Normal years	175	4	5	375	400	2000	1300
Unfavorable years	10	4	5	250	700	1100	900

743--CLEAVAGE-CLEAVAGE EXTREMELY GRAVELLY LOAM ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CLEAVAGE	CLEAVAGE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	5-30	15-30	2-5	40-60	---
Letterman needlegrass	STLE4	---	---	---	---	---	40-60
Nevada bluegrass	PONE3	---	---	---	2-5	2-8	---
Thurber needlegrass	STTH2	---	---	2-5	2-5	---	---
basin wildrye	ELCI2	---	---	---	5-10	2-8	---
bluebunch wheatgrass	AGSP	15-30	---	15-20	50-60	5-15	---
bluegrass	POA++	2-10	5-15	---	---	---	---
goldenweed	HAPL02	---	2-5	---	---	---	---
tailcup lupine	LUCA	---	---	---	---	---	20-40
antelope bitterbrush	PUTR2	2-5	---	20-40	2-10	---	---
basin big sagebrush	ARTRT	---	---	---	---	10-20	---
low sagebrush	ARAR8	15-25	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	5-10	5-15	---	---
sagebrush	ARTEM	---	30-35	---	---	---	---

Range site number	025XY017NV	025XY014NV	025XY007NV	025XY009NV	025XY027NV	025XY028NV
Potential production (lb/acre):						
Favorable years	900	400	2300	1350	1300	1700
Normal years	700	275	1400	900	900	1400
Unfavorable years	400	150	900	500	500	1100

944--CLEAVAGE-GRALEY-HARGOOD ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number -						
		CLEAVAGE	GRALEY	HARGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---	---
Idaho fescue	FEID	5-30	15-[illegible]	2-[illegible]	2-5	---	---	30-50
Indian ricegrass	ORHY	-	--	--	---	2-8	---	---
Letterman needlegrass	STLE4	- -	--	- -	---	---	40-60	---
Nevada bluegrass	PONE3	---	- -	2-5	2-5	---	---	---
Thurber needlegrass	STTH2	---	2-5		2-8	10-20	---	---
Basin wildrye	ELCI1	---	--	--	5-10	---	---	---
Bluebunch wheatgrass	AGSP	---	2-[illegible]	2-5	50-60	30-40	---	15-30
bluegrass	POA++	5-15	-	---	---		---	2-10
mountain brome	BRCA5	---	-	5-15	---	---	---	---
Snodgrass wheatgrass	AGTR	---	--	5-15	---	---	---	---
spike fescue	LEKI2	---	- -	2-[illegible]	---	---	---	---
goldenweed	HAPLO2	2-5	---	--	---	---	---	---
tailcup lupine	LUCA	---	---	--	---	---	20-40	---
Utah serviceberry	AMUT	---	---	2-5	---	---	---	---
antelope bitterbrush	PUTR2	---	2-[illegible]	1-5	2-[illegible]	---	---	2-5
black sagebrush	ARAR8	--	---	---	---	20-30	---	---
common chokecherry	PRVI	---	---	1-5	---	---	---	---
low sagebrush	ARAR8	--	---	---	---	---	---	15-25
mountain big sagebrush	ARTR2	--	5-[illegible]	5-15	5-15	---	---	---
sagebrush	ARTEM	[illegible]-35	---	---	---	---	---	---
snowberry	SYMPH	---	---	2-15	---	---	---	---

Range site number	[illegible]5XY 24[illegible]	[illegible]25XY 7[illegible]	[illegible]5XY 14[illegible]	[illegible]45YY[illegible]6[illegible]	[illegible]25XY[illegible]57[illegible]	[illegible]25XY028[illegible]	[illegible]25XY017[illegible]
Potential production (lb/ac)							
Favorable years	4[illegible]	23[illegible]	25[illegible]	13[illegible]	7[illegible]	1[illegible]0	900
Normal years	2[illegible]5	14	16[illegible]	[illegible]	5[illegible]	1400	700
Unfavorable years	1[illegible]	[illegible]	1[illegible]	[illegible]	3[illegible]	1[illegible]0	400

746--CLEAVAGE-GRALEY-SHALCLEAV ASSOCIATION

-Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CLEAVAGE	GRALEY	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	30-40	---	---	2-5	---	---
Indian ricegrass	ORHY	-	---	3-8	---	---	---	---
Nevada bluegrass	PONE3	---	2-5	--	5-10	2-5	---	---
Thurber needlegrass	STTH2	---	--	1-20	---	2-8	10-20	---
Basin wildrye	ELCI2	---	2-10	---	60-70	5-10	2-8	---
Bluebunch wheatgrass	AGSP	15-30	15-30	3-40	--	50-60	20-35	---
Bluegrass	POA++	2-10	---	---	---	---	2-10	--
Mat muhly	MURI	---	---	---	2-8		---	---
Streambank wheatgrass	AGDAR	---	---	---	2-8	---	---	---
Arrowleaf balsamroot	BASA3	---	2-5	--	---	---	---	---
Tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
Antelope bitterbrush	PUTR2	2-5	5-10	---	---	2-10	2-8	---
Basin big sagebrush	ARTRT	--	---	--	5-10	---	---	---
Big sagebrush	ARTR2	---	---	---	---	---	10-20	---
Black sagebrush	ARARN	---	--	20-30	---	---	---	---
Low sagebrush	ARAR8	15-25	---	---	---	---	---	---
Mountain big sagebrush	ARVA2	---	10-20	---	--	5-15	---	---

Range site number	025XY017NV	025XY012NV	025XY057NV	025XY003NV	025XY009NV	025XY014NV	none
Potential production (lb/acre):							
Favorable years	900	1400	700	4500	1300	1000	
Normal years	700	1000	500	3500	900	800	
Unfavorable years	400	700	300	2000	700	600	

744--CLEAVAGE-HACKWOOD-GRALEY ASSOCIATION

An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number--						
		CLEAVAGE	HACKWOOD	GRALEY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	5-3.	X	15-30	2-10	---	5-30	---
Indian ricegrass	ORHY	---	---	---	---	2-8	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	---	40-60
Nevada bluegrass	PONE3	---	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	---	-	2-5	---	10-20	---	---
bluebunch wheatgrass	AGSP	---	---	10-20	2-5	30-40	---	---
bluegrass	POA++	5-15	--	---	---	---	5-15	---
horsemint giant hyssop	AGUR	---	X	---	---	---	---	---
mountain brome	BRCA5	---	X	---	5-15	---	---	---
slender wheatgrass	AGTR	---	X	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10		---	---
goldenweed	HAPLO2	2-5	---	---	---	---	2-5	---
groundsel	SENEC	-	X	---	---	---	---	---
tailcup lupine	LUCA	---	---	---	---	---	---	20-40
Utah serviceberry	AMUT	---	X	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	---	10-40	1-5	---	---	---
black sagebrush	ARARN	---	---	---	---	20-30	---	---
common chokecherry	PRVI	---	-	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	---	5-10	5-15	---	---	---
sagebrush	ARTEM	30-35	---	---	---	---	30-35	---
snowberry	SYMPH	---	X	---	2-15	---	---	---
quaking aspen	POTRT	---	X	---	---	---	---	---

Range site number	025XY024NV	025XY065NV	025XY007NV	025XY004NV	025XY057NV	025XY024NV	025XY028NV
Potential production (lb/acre :							
Favorable years	400	800	2300	2800	700	400	1700
Normal years	275	600	1400	1800	500	275	1400
Unfavorable years	150	400	600	1200	300	150	1100

4---CLEARWATER REMANENT-GRAZLAT ASSOCIATION

An X indicates that the named plant is in the potential native vegetation inventory and the percentage is highly variable. A dash in an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number						
		CLEARWATER	REMANENT	GRAZLAT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Thickspike wheatgrass	ELLA3	--	15	--	5-10	---	---	--
Idaho fescue	FEID	--	20-40	--	10-40	---	--	X
Nevada bluegrass	PONE	--	5-15	---	1-5	---	--	--
Canada bluegrass	POCO	--	--	--	---	2-5	--	--
Thurber needlegrass	STTH2	--	--	--	---	5-15	--	---
Bluebunch wheatgrass	AGSP	--	5-15	--	5-10	15-40	--	---
Bluegrass	POA++	5-15	--	--	--	---	---	--
Rocky Mtn. thistle	CIRO	--	--	--	--	--	--	X
Columbia brome	BRCA5	--	5-15	--	5-15	--	---	X
Bluebunch	FIRE	--	--	1-5	--	--	--	--
Needlegrass	STIPA	---	--	5-15	--	--	--	---
Slender wheatgrass	AGTR	--	1-10	---	5-15	--	--	X
goldenweed	HAPI 2	1-5	--	---	--	--	---	---
gilkadee	GEMI2	--	--	--	--	--	---	X
tapertip hawksbeard	CRAC2	--	--	--	--	1-5	--	---
Utah serviceberry	AMUT	--	--	--	--	--	--	X
Antelope bitterbrush	PUTR2	--	1-5	--	1-5	--	--	---
Black Sagebrush	ARNO4	--	--	--	--	10-20	---	---
Mountain big sagebrush	ARVA	--	5-10	15-30	1-15	--	--	---
Sagebrush	ARTEM	5-15	--	--	--	--	--	---
Snowberry	SYMPH	--	1-5	1-5	1-5	--	--	X
Mountain bluebunch	FEIDS	---	--	--	--	---	--	--
Threetip sagebrush/Parry oatgrass	ARTR4/	--	--	15-25	--	--	--	--
Sandberg bluegrass	POSE	---	--	--	--	--	--	X

Range site name and number	CLEARWATER	DEEP SILT	DEEP SILT	SHALLOW	SHALLOW GRAVELLY	DEEP SILT	SHALLOW GRAVELLY
Potential production (lb/acre)							
Favorable year	4	27	1	15	6	12	1
Normal year	2-6	22	1	12	3-6	8	2
Unfavorable year	1	18		9	2	7	1

[illegible] USE-AGE HABITAT-PLANT ASSOCIATION

*Presence in an entry indicates that the named plant is but a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production, by weight, of plants in major strata and inclusions						
		USE-AGE	*HABITAT	*PLANT	[illegible]	[illegible]	[illegible]	[illegible]
Idaho fescue	FEID							
Indian ricegrass	[illegible]							
Nevada bluegrass	PONE3							
Thurber needlegrass	STTH2							
Basin wildrye	ELCI1							
bluebunch wheatgrass	AGSP							
bluegrass	POA--							
goldenweed	HAPL1							
antelope bitterbrush	PUTR2							
big sagebrush	ARTR2							
black sagebrush	ARNO4							
mountain big sagebrush	ARVA2							
sagebrush	ARTEM							

Range site number	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Potential production, in acre								
Favorable years								
Normal years								
Unfavorable years								

64--CLEAVAGE-SNOTOWN-CHEN ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- CLEAVAGE	SNOTOWN	CHEN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	2-8	2-5	---
Idaho fescue	FEID	5-30	---	30-50	15-30		2-10	---
Indian ricegrass	ORHY	---	---	---	---	---	---	2-8
Letterman needlegrass	STLE4	---	40-60	---	---	2-5	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	---	---	---	2-5	---	---	10-20
bluebunch wheatgrass	AGSP	---	---	15-3	10-20	---	2-5	30-40
bluegrass	POA++	5-15	---	5-1		---	---	---
mountain brome	BRCA5	---	---	---	---	5-10	5-15	---
slender wheatgrass	AGTR	---	---	---	---	5-10	5-15	---
spike fescue	LEKI2	---	---	---	---	---	2-10	---
goldenweed	HAPL02	2-5	---	---	---	---	---	---
tailcup lupine	LUCA	---	20-40	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	---	2-5	20-40	---	1-5	---
black sagebrush	APARN	---	---	---	---	---	---	20-30
common chokecherry	PRVI	---	---	---	---	---	1-5	---
low sagebrush	ARAR8	---	---	15-25	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-10	---	5-15	---
quaking aspen	POTRT	---	---	---	---	50-60	---	---
sagebrush	ARTEM	30-35	---	---	---	---	---	---
snowberry	SYMPH	---	---	---	---	---	2-15	---
willow	SALIX	---		---	---	1-8	---	---

Range site number	025XY024NV	025XY028NV	025XY017NV	025XY007NV	025XY002NV	025XY004NV	025XY057NV
Potential production (lb/acre):							
Favorable years	400	1700	900	2300	1800	2800	700
Normal years	275	1400	700	1400	1300	1800	500
Unfavorable years	150	1100	400	900	900	1200	300

[illegible]

A: X indicates that the named plant is on the potential plant community and the percentage is highly variable
Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition of annual production (by weight) of plants on map soils and inclusions						
		Soil name or Inclusion number:						
		CLEAVAGE	BULLJUMP	HACKWOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE2	---	-	---	2-5	--	2-8	---
Idaho fescue	FEID	5-5	2-10	X	5-10	---	---	---
western needlegrass	STLE4	---	2-5	---	---	4-10	2-5	---
Nevada bluegrass	PONE2	-	1-5	-	2-5	---	--	--
basin wildrye	ELCI2	-	5-15	--	-	-	-	-
bluebunch wheatgrass	AGSP	-	5-15	-	1-5	---	--	---
bluegrass	POA**	5-10	--	-	--	---	--	---
bottlebrush squirreltail	ELEL5	-	--	X	--	-	--	-
mountain brome	BRCA5	---	10-40	X	5-15	---	5-10	---
slender wheatgrass	AGTR		---	X	5-15	---	5-10	---
spike fescue	LEKI2	--	2-5	---	2-10	---	---	---
goldenweed	HAPLO2	2-5	---	---	---	--	---	---
groundsel	SENE2	---	---	X	---	-	---	---
tailcup lupine	LUCA	--	---	---	--	20-40	--	---
Utah serviceberry	AMUT	--	---	X	1-5	-	---	---
antelope bitterbrush	PUTR2	--	5-10	---	1-5	--	---	---
common snowberry	PRVI	--	---	--	1-5	---	---	---
mountain big sagebrush	ARVA2	--	5-15	-	5-15	---	---	---
quaking aspen	POTR2	--	---	X	---	--	30-60	---
sagebrush	ARTEM	30-35	---	---	---	-	---	---
snowberry	SYMPH	--	--	X	2-15	--	--	---
Columbian sagebrush	ARCO9	---	--	-	-	-	---	70-80
willow	SALIX	-	-	---	-	---	1-8	---
quaking aspen	POTR2	--	-	-	--	---	5--60	---

Range site number	[illegible]	[illegible]	[illegible]	[illegible]	R040028NV	R25XY002NV	R25XY052NV
Potential production, lb/acre							
Favorable years	4[illegible]	[illegible]	[illegible]	18[illegible]	1700	1800	2800
Normal years	275	14[illegible]	[illegible]	14	1400	1350	2000
Unfav rable years	[illegible]	1[illegible]	4	10[illegible]	1100	900	1700

741--CLEAVAGE-CLEAVAGE EXTREMELY GRAVELLY LOAM-HAPGOOD ASSOCIATION

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number						
		CLEAVAGE	CLEAVAGE	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---	---
Idaho fescue	FEID	30-40	5-10	2-10	5-15	---	5-15	15-30
Indian ricegrass	IRHY	---	---	---	---	2-5	---	---
Nevada bluegrass	PONE2	---	---	2-5	---	---	---	---
Thurber needlegrass	STTHT2	---	---	---	---	5-10	---	---
Sandberg bluegrass	POSE	---	---	---	2-8	---	---	---
Bluebunch wheatgrass	AGSP	15-30	---	2-5	15-25	5-10	2-10	---
Bluegrass	POA	2-5	5-15	---	---	2-8	---	---
Cattletail squirreltail	ELEL5	---	---	---	---	2-5	---	---
Curlleaf mountainmahogany	CELE3	---	---	---	---	---	---	2-8
Mountain brome	BRMA4	---	---	5-15	5-15	---	---	10-20
Thurber needlegrass	ACTH7	---	---	5-15	---	---	---	2-5
Squirreltail	ELEL5	---	---	2-5	---	---	---	---
Balsamroot	BALSA2	---	2-5	---	---	---	---	---
Lupine	LUPIN	---	---		---	---	---	10-15
Wyethia	WYETH	---	---		---	---	---	20-30
Basin big sagebrush	ARTRT	---	---	2-5	5-10	---	---	---
Antelope bitterbrush	PUTR2	2-5	---	2-5	5-10	---	2-8	---
Rocky Mountain penstemon	PEMO	---	---	2-5	---	---	---	---
Low sagebrush	ARAR8	15-25	---	---	---	---	---	---
Mountain big sagebrush	ARTRV	---	---	5-15	10-20	2-5	2-5	---
Sagebrush	ARTEM	---	30-35	---	---	---	---	---
Wet meadowrue	THFE	---	---	---	---	---	40-50	---
Oxytrope	OXYTR	---	---	2-15	---		2-8	---
Tailcup lupine	LUCA	---	---		---	5-10	---	---

Range site number	258X-1-1MT	258X-2-2MT	258X-3-3MT	258XY042MT	258BY042MT	258XY046MT	258XY047MT
Potential production (lb/acre)							
Favorable years	4	4	2+	7-9	3000	1800	2000
Normal years	3	2-3	1+	6-7	2400	1300	1500
Unfavorable years	1-2	1-2	1-	4-5	1700	900	1000

61--CLEAVAGE-ARTEMISIA LEPPLOW ASSOCIATION

-Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants in major soils and inclusions						
		Soil name or inclusion number--						
		CLEAVAGE	ARTEMISIA	LEPPLOW	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	5-10	5-10	2-5	---	40-50	---	---
Indian ricegrass	ORHY	---	---	---	2-5	---	2-5	---
Nevada bluegrass	PONE3	---	2-5	2-5	---	2-5	---	---
Thurber needlegrass	STTH2	---	---	2-5	5-10	---	10-20	---
basin wildrye	ELCI2	---	2-5	5-10	---	2-5	---	---
bluebunch wheatgrass	AGSP	---	10-30	50-60	5-10	5-15	30-40	---
bluegrass	POA--	5-15	---	---	2-5	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	2-5	---	---	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---	---
goldenweed	HAPLO	2-5	---	---	---	---	---	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
antelope bitterbrush	PUTR2	---	5-10	2-5	---	---	---	---
basin big sagebrush	ARTRT	---	---	---	---	20-30	---	---
black sagebrush	ARNO	---	---	---	---	---	20-30	---
mountain big sagebrush	ARVAV	---	30-40	5-10	5-10	---	---	---
sagebrush	ARTEM	5-15	---	---	---	---	---	---
turkeyfoot mountainmahogany	CELE3	---	---	---	5-10	---	---	---

Range site number	26NV124NV	26NV125NV	26NV134NV	26NV140NV	26NV167NV	26NV168NV	None
Potential production (lb acre--							
Favorable years	450	1400	1300	600	50	700	
Normal years	275	700	800	340	30	400	
Unfavorable years	100	300	300	170	10	200	

TR3--CLEAVAGE-SHALLOW ROCK OUTCROP ASSOCIATION

An x indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name and inclusion number					
		[illegible]	Woodfen	Pair [illegible]	Inclusion 4	Inclusion [illegible]	Inclusion [illegible]
[illegible]	FEID	[illegible]	-	--	--	40-60	[illegible]
Indian ricegrass	ORHY	--		-	X	-	-
Ponderosa pine	PINE3	-		-	--	2-8	--
Rocky Mountain juniper	STTHC	--	15-[illegible]		5	--	---
Basin wildrye	ELCI2	---	-		-	2-8	2-8
Bluebunch wheatgrass	AGSP	15-3[illegible]	[illegible]-3		X	8-18	15-25
Fringed sage	ARFR4	2-10	-	--	X	--	---
Mountain brome	BRCA5	-	-	-			5-10
goldenweed	HAPLO2	-	--		X	-	---
phlox	PHLOX			-	X	--	--
Utah serviceberry	AMUT		---	-	-	--	2-8
Wyoming big sagebrush	ARTRW		1-[illegible]		-		---
antelope bitterbrush	PUTR2	[illegible]-[illegible]	2-5	--	--	--	5-10
basin big sagebrush	ARTR2			--		1-[illegible]	---
black sagebrush	ARNO4	-	--		X	-	---
Gray rabbitbrush	CHVI4		--	-	X		-
Low sagebrush	ARAR8	10-[illegible]	-	--	-	-	-
mountain big sagebrush	ARTR2	-	-	-	-	-	1-[illegible]
[illegible]	[illegible]		-	-	X	-	--

Soil name and map symbol	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Potential productivity, lb/ac						
Favorable years	4	-		4	13	-
Normal years	-	4		[illegible]	-	8
Unfavorable years	42	24		16	6[illegible]	2

764--CLEAVAGE CLEAVAGE EXTREMELY GRAVELLY LOAM SUMINE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number						
		CLEAVAGE	CLEAVAGE	SUMINE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	---	2-5
Idaho fescue	FEID	5-10	5-10	2-5	5-10	---	---	2-10
Indian ricegrass	ORHY	---	---	---	---	2-5	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	---	2-5
Thurber needlegrass	STTHT2	---	---	2-5	---	10-20	5-15	---
basin wildrye	ELCI2	---	---	5-10	2-10	---	2-5	---
bluebunch wheatgrass	AGSP	15-30	---	5-10	15-30	30-40	60-80	2-5
bluegrass	POA--	2-10	5-15	---	---	---	---	---
mountain brome	BRCA5	---	---	---	---	---	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	---	5-15
spike fescue	LEKI2	---	---	---	---	---	---	2-10
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---	---
goldenweed	HAPLO2	---	2-5	---	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	---	2-5
wyoming big sagebrush	ARTRW	---	---	---	---	---	5-15	---
antelope bitterbrush	PUTR2	5-10	---	2-5	5-10	---	2-5	2-5
black sagebrush	ARAR8	---	---	---	---	2-5	---	---
common chokecherry	PRVI	---	---	---	---	---	---	2-5
low sagebrush	ARAR5	10-15	---	---	---	---	---	---
mountain big sagebrush	ARTR2	---	---	5-10	10-20	---	---	5-15
sagebrush	ARTEM	---	5-10	---	---	---	---	---
snowberry	SYMPH	---	---	---	---	---	---	2-10
Range site number		28YY 17NV	028Y124NV	25CY 19NV	028XY112NV	28XY130NV	25XY116NV	026XY140NV
Potential production (lb acre):								
Favorable years		750	400	1300	1400	700	1100	950
Normal years		500	275	900	1000	500	750	650
Unfavorable years		400	150	500	600	300	500	350

'99--CLEAVAGE-SUMINE-HARGUD ASSOCIATI N

Absence of an entry indicates that the named plant is not a key species in the potential native plant community.

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		CLEAVAGE	SUMINE	HARGUD	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	ACNE3	---	--	1-5	---	---	--
Idaho fescue	FEID	5-10	2-5	2-5	30-50	---	20-30
Letterman needlegrass	STLE4	-	- -	--	--	40-60	--
Nevada bluegrass	PONE3	---	1-5	2-5	---	---	---
Thurber needlegrass	STTH2	-	1-5		---	--	---
basin wildrye	ELCI2	--	5-10	---	---	---	40-60
big bluegrass	POAM	-	---	--	---	---	2-8
bluebunch wheatgrass	AGSP	--	5-10	2-5	15-30	---	---
bluegrass	POA++	5-15	---	---	2-10	--	--
Columbia brome	BRCA5	-	---	5-15	---	--	2-10
slender wheatgrass	AGTR	-		5-15	---	--	---
spike fescue	LEKI	--	---	2-10	---	---	---
gilia/weed	HAPL2	2-5	---	---	---	---	---
basin bubb-	LIDO	---	---	-	---	20-40	---
Great Basin-	ARTRT	---	--	1-5	---	---	---
bitterbrush,	PUTRI		1-2	1-5	2-5	--	--
common threeawn	ARVI		---	1-5	---	---	---
low sagebrush	ARAR8		--	--	15-25	---	---
Wyoming big sagebrush	ARTRW	--	5-15	5-15	--	--	2-5
sagebrush	ARTRN	5-15	--	-	---	--	--
Sandberg	POSE	- -	--	2-15	-	---	---

Range site number	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Potential production, air-dry						
Favorable years	4-	12-	26-	70-	1700	2300
Normal years	2?6	9	18-	50	1400	1700
Unfavorable years	15	???	10	40	1100	1300

756--CLEAVAGE-SUMINE-PERNTY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CLEAVAGE	SUMINE	PERNTY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	5-30	2-5	30-40	40-60	---	15-30	---
Indian ricegrass	ORHY	---	---	---	---	2-8	---	---
Nevada bluegrass	PONE3	---	2-5	2-5	2-8	---	---	5-10
Thurber needlegrass	STTH2	---	2-8	---	---	10-20	2-5	---
basin wildrye	ELCI2	---	5-10	2-10	2-8	---	---	60-70
bluebunch wheatgrass	AGSP	---	50-60	15-30	5-15	30-40	10-20	---
bluegrass	POA++	5-15	---	---	---	---	---	---
mat muhly	MURI	---	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	2-5	---	---	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
antelope bitterbrush	PUTR2	---	2-10	5-10	---	---	20-40	---
basin big sagebrush	ARTRT	---	---	---	10-20	---	---	5-10
black sagebrush	ARARN	---	---	---	---	20-30	---	---
mountain big sagebrush	ARVA2	---	5-15	10-20	---	---	5-10	---
sagebrush	ARTEM	30-35	---	---	---	---	---	---
Range site number		025XY024NV	025XY009NV	025XY012NV	025XY027NV	025XY057NV	025XY007NV	025XY003NV
Potential production (lb/acre):								
Favorable years		400	1300	1400	1300	700	2300	4500
Normal years		275	900	1000	900	500	1400	3500
Unfavorable years		150	700	700	500	300	900	2000

757--CLEAVAGE-SUMINE-SNOTOWN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		CLEAVAGE	SUMINE	SNOTOWN	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	---	2-8	2-5
Idaho fescue	FEID	5-30	2-5	---	30-50	---	2-10
Letterman needlegrass	STLE4	---	---	40-60	---	2-5	---
Nevada bluegrass	PONE3	---	2-5	---	---	---	2-5
Thurber needlegrass	STTH2	---	2-8	---	---	---	---
basin wildrye	ELCI2	---	5-10	---	---	---	---
bluebunch wheatgrass	AGSP	---	50-60	---	15-30	---	2-5
bluegrass	POA++	5-15	---	---	2-10	---	---
mountain brome	BRCA5	---	---	---	---	5-10	5-15
slender wheatgrass	AGTR	---	---	---	---	5-10	5-15
spike-fescue	LEKI2	---	---	---	---	---	2-10
goldenweed	HAPLO2	2-5	---	---	---	---	---
tailcup lupine	LUCA	---	---	20-40	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5
antelope bitterbrush	PUTR2	---	2-10	---	2-5	---	1-5
common chokecherry	PRVI	---	---	---	---	---	1-5
low sagebrush	ARAR8	---	---	---	15-25	---	---
mountain big sagebrush	ARVA2	---	5-15	---	---	---	5-15
quaking aspen	POTRT	---	---	---	---	50-60	---
sagebrush	ARTEM	30-35	---	---	---	---	---
snowberry	SYMPH	---	---	---	---	---	2-15
willow	SALIX	---	---	---	---	1-8	---

Range site number	025XY024NV	025XY009NV	025XY028NV	025XY017NV	025XY002NV	025XY004NV
Potential production (lb/acre):						
Favorable years	400	1300	1700	900	1800	2800
Normal years	275	900	1400	700	1300	1800
Unfavorable years	150	700	1100	400	900	1200

758--CLEAVAGE-TWEENER-GRALEY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CLEAVAGE	TWEENER	GRALEY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-5	---
Idaho fescue	FEID	5-30	15-30	30-40	2-5	2-10	2-10	30-50
Letterman needlegrass	STLE4	---	---	---	---	2-5	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	2-5	2-5	---
Thurber needlegrass	STTH2	---	2-5	---	2-8	---	---	---
basin wildrye	ELCI2	---	---	2-10	5-10	5-15	---	---
bluebunch wheatgrass	AGSP	---	10-20	15-30	50-60	30-50	2-5	15-30
bluegrass	POA++	5-15	---	---	---	---	---	2-10
mountain brome	BRCA5	---	---	---	---	20-40	5-15	---
slender wheatgrass	AGTR	---	---	---	---	---	5-15	---
spike fescue	LEKI2	---	---	---	---	2-5	2-10	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	2-5	---	---	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	20-40	5-10	2-10	5-10	1-5	2-5
common chokecherry	PRVI	---	---	---	---	---	1-5	---
low sagebrush	ARAR8	---	---	---	---	---	---	15-25
mountain big sagebrush	ARVA2	---	5-10	10-20	5-15	5-15	5-15	---
sagebrush	ARTEM	30-35	---	---	---	---	---	---
snowberry	SYMPH	---	---	---	---	---	2-15	---

Range site number	025XY024NV	025XY007NV	025XY012NV	025XY009NV	025XY016NV	025XY004NV	025XY017NV
Potential production (lb/acre):							
Favorable years	400	2300	1400	1300	2000	2800	900
Normal years	275	1400	1000	900	1400	1800	700
Unfavorable years	150	900	700	700	1000	1200	400

759--CLEAVAGE-TWEENER-SCALFAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CLEAVAGE	TWEENER	SCALFAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	5-30	15-30	5-30	5-15	30-40	30-40	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	2-5	5-10
Thurber needlegrass	STTH2	---	2-5	---	---	---	---	---
alpine timothy	PHAL2	---	---	---	---	---	---	5-10
basin wildrye	ELCI2	---	---	---	---	2-10	2-10	---
bluebunch wheatgrass	AGSP	---	10-20	---	2-10	15-30	15-30	---
bluegrass	POA++	5-15	---	5-15	---	---	---	---
sedge	CAREX	---	---	---	---	---	---	5-10
tufted hairgrass	DECE	---	---	---	---	---	---	30-60
Sierra clover	TRWO	---	---	---	---	---	---	2-5
arrowleaf balsamroot	BASA3	---	---	---	---	2-5	2-5	---
cinquefoil	POTEN	---	---	---	---	---	---	2-5
goldenweed	HAPLO2	2-5	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	2-5	2-5	---
antelope bitterbrush	PUTR2	---	20-40	---	2-8	5-10	5-10	---
mountain big sagebrush	ARVA2	---	5-10	---	2-5	10-20	10-20	---
sagebrush	ARTEM	30-35	---	30-35	---	---	---	---
serviceberry	AMELA	---	---	---	40-50	---	---	---
snowberry	SYMPH	---	---	---	2-8	---	---	---
Range site number		025XY024NV	025XY007NV	025XY024NV	025XY046NV	025XY012NV	025XY012NV	025XY005NV
Potential production (lb/acre):								
Favorable years		400	2300	400	1800	1400	1400	3000
Normal years		275	1400	275	1300	1000	1000	1700
Unfavorable years		150	900	150	900	700	700	1000

760--JERICHO-PEEKO-IZAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		JERICHO	PEEKO	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	5-15	5-15	---	15-25	15-30	---
Sandberg bluegrass	POSE	2-5	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	15-25	15-30	15-30	15-25	---	---	5-15
basin wildrye	ELCI2	---	---	---	---	---	5-10	2-5
bluebunch wheatgrass	AGSP	25-40	---	---	25-40	---	---	60-80
bottlebrush squirreltail	SIHY	---	---	---	---	5-10	---	---
needleandthread	STCO4	---	---	---	---	---	30-40	---
other perennial grasses	PPGG	---	---	---	---	2-5	---	---
globemallow	SPHAE	---	2-5	2-5	---	2-5	---	---
Wyoming big sagebrush	ARTRW	15-25	---	---	15-25	---	---	5-15
antelope bitterbrush	PUTR2	---	---	---	---	---	---	1-5
big sagebrush	ARTR2	---	---	---	---	---	15-25	---
black sagebrush	ARARN	---	25-35	25-35	---	---	---	---
bud sagebrush	ARSP5	---	---	---	---	2-8	---	---
fourwing saltbush	ATCA2	---	---	---	---	2-5	---	---
spiny hopsage	GRSP	---	---	---	---	---	1-5	---
winterfat	EULA5	---	---	---	---	40-50	---	---

Range site number	025XY019NV	024XY030NV	024XY030NV	025XY019NV	028BY013NV	024XY017NV	025XY015NV
Potential production (lb/acre):							
Favorable years	800	500	500	800	700	900	1000
Normal years	600	350	350	600	500	700	700
Unfavorable years	400	250	250	400	350	500	500

761--JERICHO-GANCE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		JERICHO	GANCE	Inclusion 1	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	5-15	5-15	---
Sandberg bluegrass	POSE	2-5	2-5	---	---	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-30	15-30	15-25
bluebunch wheatgrass	AGSP	25-40	25-40	---	---	25-40
globemallow	SPHAE	---	---	2-5	2-5	---
Wyoming big sagebrush	ARTRW	15-25	15-25	---	---	15-25
black sagebrush	ARARN	---	---	25-35	25-35	---
Range site number		025XY019NV	025XY019NV	024XY030NV	024XY030NV	025XY019NV
Potential production (lb/acre):						
Favorable years		800	800	500	500	800
Normal years		600	600	350	350	600
Unfavorable years		400	400	250	250	400

762--JERICHO-PEEKO-GANCE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		JERICHO	PEEKO	GANCE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	5-15	---	---	15-30	---
Sandberg bluegrass	POSE	2-5	---	2-5	---	---	---
Thurber needlegrass	STTH2	15-25	15-30	15-25	10-20	---	10-20
basin wildrye	ELCI2	---	---	---	2-8	2-8	2-8
bluebunch wheatgrass	AGSP	25-40	---	25-40	20-35	---	20-35
bluegrass	POA++	---	---	---	2-10	---	2-10
bottlebrush squirreltail	SIHY	---	---	---	---	5-10	---
globemallow	SPHAE	---	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	15-25	---	15-30	---
antelope bitterbrush	PUTR2	---	---	---	2-8	2-8	2-8
big sagebrush	ARTR2	---	---	---	10-20	---	10-20
black sagebrush	ARARN	---	25-35	---	---	10-20	---
spiny hopsage	GRSP	---	---	---	---	2-5	---
Range site number		025XY019NV	024XY030NV	025XY019NV	025XY014NV	025XY025NV	025XY014NV
Potential production (lb/acre):							
Favorable years		800	500	800	1000	500	1000
Normal years		600	350	600	800	350	800
Unfavorable years		400	250	400	600	200	600

763--JERICHO-PAMISON-PEEKO ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		JERICHO	PAMISON	PEEKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	2-5	5-15	X	---	---	X
Sandberg bluegrass	POSE	2-5	---	---	---	2-5	2-5	---
Thurber needlegrass	STTH2	15-25	10-20	15-30	X	15-25	15-25	X
bluebunch wheatgrass	AGSP	25-40	20-35	---	X	25-40	25-40	X
bluegrass	POA++	---	---	---	X	---	---	X
globemallow	SPHAE	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	X	---	---	X
phlox	PHLOX	---	---	---	X	---	---	X
Wyoming big sagebrush	ARTRW	15-25	---	---	---	15-25	15-25	---
black sagebrush	ARARN	---	25-35	25-35	X	---	---	X
downy rabbitbrush	CHVIP4	---	---	---	X	---	---	X
Utah juniper	JUOS	---	---	---	X	---	---	X
Range site number		025XY019NV	024XY031NV	024XY030NV	025XY060NV	025XY019NV	025XY019NV	025XY060NV
Potential production (lb/acre):								
Favorable years		800	700	500	400	800	800	400
Normal years		600	500	350	275	600	600	275
Unfavorable years		400	300	250	150	400	400	150

764--JERICHO-JERICHO SILT LOAM ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		JERICHO	JERICHO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	20-30	---	20-30	15-25	15-25	20-30
Sandberg bluegrass	POSE	2-5	---	2-5	---	---	2-5
bottlebrush squirreltail	SIHY	2-8	---	2-8	5-10	2-5	2-8
needleandthread	STCO4	10-20	---	10-20	---	5-10	10-20
other perennial grasses	PPGG	---	---	---	2-5	---	---
globemallow	SPHAE	---	---	---	2-5	---	---
scarlet globemallow	SPCO	---	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	25-35	---	25-35	---	20-35	25-35
bud sagebrush	ARSP5	---	---	---	2-8	---	---
fourwing saltbush	ATCA2	---	---	---	2-5	---	---
rabbitbrush	CHRYS9	2-5	---	2-5	---	---	2-5
shadscale	ATCO	---	---	---	---	2-5	---
snowbrush ceanothus	CEVE	---	70-80	---	---	---	---
spiny hopsage	GRSP	---	---	---	---	5-20	---
winterfat	EULA5	---	---	---	40-50	---	---
Range site number		028BY010NV	025XY052NV	028BY010NV	028BY013NV	028BY052NV	028BY010NV
Potential production (lb/acre):							
Favorable years		800	2800	800	700	800	800
Normal years		600	2000	600	500	600	600
Unfavorable years		400	1700	400	350	450	400

765--JERICHO-PEQUOP-YUKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		JERICHO	PEQUOP	YUKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Cusick bluegrass	POCU3	---	---	---	---	---	---	5-10
Idaho fescue	FEID	---	30-40	---	---	5-15	---	50-65
Indian ricegrass	ORHY	---	---	---	15-30	---	5-15	---
Nevada bluegrass	PONE3	---	2-5	---	---	---	---	---
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTH2	15-25	---	5-15	---	---	15-30	---
basin wildrye	ELCI2	---	2-10	2-5	2-8	2-8	---	---
bluebunch wheatgrass	AGSP	25-40	15-30	60-80	---	15-25	---	2-5
bottlebrush squirreltail	SIHY	---	---	---	5-10	---	---	---
mountain brome	BRCA5	---	---	---	---	5-10	---	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---	---
globemallow	SPHAE	---	---	---	---	---	2-5	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	2-8	---	---
Wyoming big sagebrush	ARTRW	15-25	---	5-15	15-30	---	---	---
antelope bitterbrush	PUTR2	---	5-10	1-5	2-8	2-10	---	---
black sagebrush	ARARN	---	---	---	10-20	---	25-35	---
mountain big sagebrush	ARVA2	---	10-20	---	---	10-20	---	2-8
spiny hopsage	GRSP	---	---	---	2-5	---	---	---

Range site number	025XY019NV	025XY012NV	025XY015NV	025XY025NV	025XY042NV	024XY030NV	025XY010NV
Potential production (lb/acre):							
Favorable years	800	1400	1000	500	700	500	1200
Normal years	600	1000	700	350	500	350	800
Unfavorable years	400	700	500	200	300	250	600

780--PUETT-PEEKO-YUKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PUETT	PEEKO	YUKO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	15-30	5-15	---	5-15	---	2-8
Sandberg bluegrass	POSE	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	---	15-30	5-15	15-30	15-25	10-20
basin wildrye	ELCI2	2-8	---	2-5	---	---	---
bluebunch wheatgrass	AGSP	---	---	60-80	---	25-40	30-40
bottlebrush squirreltail	SIHY	5-10	---	---	---	---	---
globemallow	SPHAE	---	2-5	---	2-5	---	---
Wyoming big sagebrush	ARTRW	15-30	---	5-15	---	15-25	---
antelope bitterbrush	PUTR2	2-8	---	1-5	---	---	---
black sagebrush	ARARN	10-20	25-35	---	25-35	---	20-30
spiny hopsage	GRSP	2-5	---	---	---	---	---
Range site number		025XY025NV	024XY030NV	025XY015NV	024XY030NV	025XY019NV	025XY057NV
Potential production (lb/acre):							
Favorable years		500	500	1000	500	800	700
Normal years		350	350	700	350	600	500
Unfavorable years		200	250	500	250	400	300

781--PUETT-IZAR-SHALPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		PUETT	IZAR	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	15-30	5-15	---	2-5	5-15	5-15	---
Thurber needlegrass	STTH2	---	15-30	15-25	10-20	15-30	15-30	---
basin wildrye	ELCI2	2-8	---	---	---	---	---	---
bluebunch wheatgrass	AGSP	---	---	20-35	20-35	---	---	---
bottlebrush squirreltail	SIHY	5-10	---	---	---	---	---	---
globemallow	SPHAE	---	2-5	---	---	2-5	2-5	---
Wyoming big sagebrush	ARTRW	15-30	---	20-30	---	---	---	---
antelope bitterbrush	PUTR2	2-8	---	2-5	---	---	---	---
black sagebrush	ARARN	10-20	25-35	---	25-35	25-35	25-35	---
spiny hopsage	GRSP	2-5	---	---	---	---	---	---
Range site number		025XY025NV	024XY030NV	025XY021NV	024XY031NV	024XY030NV	024XY030NV	none
Potential production (lb/acre):								
Favorable years		500	500	600	700	500	500	
Normal years		350	350	400	500	350	350	
Unfavorable years		200	250	250	300	250	250	

790--LOOMIS-ACKETT-DEWAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		LOOMIS	ACKETT	DEWAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	5-15	---	5-15	5-15	---	---
Sandberg bluegrass	POSE	---	---	2-5	---	---	2-5	2-5
Thurber needlegrass	STTH2	15-30	15-30	15-25	15-30	15-30	15-25	5-15
bluebunch wheatgrass	AGSP	---	---	25-40	---	---	25-40	25-35
globemallow	SPHAE	2-5	2-5	---	2-5	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	15-25	---	---	15-25	---
black sagebrush	ARARN	25-35	25-35	---	25-35	25-35	---	25-35
Range site number		024XY030NV	024XY030NV	025XY019NV	024XY030NV	024XY030NV	025XY019NV	025XY055NV
Potential production (lb/acre):								
Favorable years		500	500	800	500	500	800	500
Normal years		350	350	600	350	350	600	375
Unfavorable years		250	250	400	250	250	400	250

796--GOLLAHER VERY GRAVELLY LOAM, 15 TO 50 PERCENT SLOPES

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		GOLLAHER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-5	---	---	---
Idaho fescue	FEID	---	2-10	---	2-10	---
Indian ricegrass	ORHY	2-8	---	2-8	---	---
Letterman needlegrass	STLE4	---	---	---	2-5	---
Nevada bluegrass	PONE3	---	2-5	---	2-5	---
Thurber needlegrass	STTH2	10-20	---	10-20	---	---
basin wildrye	ELCI2	---	---	---	5-15	---
bluebunch wheatgrass	AGSP	30-40	2-5	30-40	30-50	---
mountain brome	BRCA5	---	5-15	---	20-40	---
slender wheatgrass	AGTR	---	5-15	---	---	---
spike-fescue	LEKI2	---	2-10	---	2-5	---
Utah serviceberry	AMUT	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	1-5	---	5-10	---
black sagebrush	ARARN	20-30	---	20-30	---	---
common chokecherry	PRVI	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	5-15	---	5-15	---
snowberry	SYMPH	---	2-15	---	---	---
Range site number		025XY057NV	025XY004NV	025XY057NV	025XY016NV	none
Potential production (lb/acre):						
Favorable years		700	2800	700	2000	
Normal years		500	1800	500	1400	
Unfavorable years		300	1200	300	1000	

797--GOLLAHER-AMENE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GOLLAHER	AMENE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---
Idaho fescue	FEID	---	5-15	2-10	---	---	---
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Letterman needlegrass	STLE4	---	---	---	40-60	---	---
Nevada bluegrass	PONE3	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	10-20	---	---	---	---	---
bluebunch wheatgrass	AGSP	30-40	2-10	2-5	---	---	---
mountain brome	BRCA5	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	2-10	---	---	---
tailcup lupine	LUCA	---	---	---	20-40	---	---
Utah serviceberry	AMUT	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	2-8	1-5	---	---	---
black sagebrush	ARARN	20-30	---	---	---	---	---
common chokecherry	PRVI	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	2-5	5-15	---	---	---
serviceberry	AMELA	---	40-50	---	---	---	---
snowberry	SYMPH	---	2-8	2-15	---	---	---
Range site number		025XY057NV	025XY046NV	025XY004NV	025XY028NV	none	none
Potential production (lb/acre):							
Favorable years		700	1800	2800	1700		
Normal years		500	1300	1800	1400		
Unfavorable years		300	900	1200	1100		

798--GOLLAHER-AMENE-HACKWOOD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GOLLAHER	AMENE	HACKWOOD	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	---	---	2-5	---	---
Idaho fescue	FEID	---	5-15	X	2-10	2-5	40-60
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	2-5	2-8
Thurber needlegrass	STTH2	10-20	---	---	---	2-8	---
basin wildrye	ELCI2	---	---	---	---	5-10	2-8
bluebunch wheatgrass	AGSP	30-40	2-10	---	2-5	50-60	5-15
horsemint giant hyssop	AGUR	---	---	X	---	---	---
mountain brome	BRCA5	---	---	X	5-15	---	---
slender wheatgrass	AGTR	---	---	X	5-15	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---
groundsel	SENEC	---	---	X	---	---	---
Utah serviceberry	AMUT	---	---	X	1-5	---	---
antelope bitterbrush	PUTR2	---	2-8	---	1-5	2-10	---
basin big sagebrush	ARTRT	---	---	---	---	---	10-20
black sagebrush	ARARN	20-30	---	---	---	---	---
common chokecherry	PRVI	---	---	---	1-5	---	---
mountain big sagebrush	ARVA2	---	2-5	---	5-15	5-15	---
serviceberry	AMELA	---	40-50	---	---	---	---
snowberry	SYMPH	---	2-8	X	2-15	---	---
quaking aspen	POTRT	---	---	X	---	---	---

Range site number	025XY057NV	025XY046NV	025XY065NV	025XY004NV	025XY009NV	025XY027NV
Potential production (lb/acre):						
Favorable years	700	1800	800	2800	1300	1300
Normal years	500	1300	600	1800	900	900
Unfavorable years	300	900	400	1200	700	500

799--GOLLAHER-ARCIA-VITALE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GOLLAHER	ARCIA	VITALE	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	30-40	40-60	---	30-50	---
Indian ricegrass	ORHY	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	2-5	2-8	---	---	5-10
Thurber needlegrass	STTH2	10-20	---	---	15-25	---	---
basin wildrye	ELCI2	---	2-10	2-8	---	---	60-70
bluebunch wheatgrass	AGSP	30-40	15-30	5-15	20-35	15-30	---
bluegrass	POA++	---	---	---	---	2-10	---
mat muhly	MURI	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	20-30	---	---
antelope bitterbrush	PUTR2	---	5-10	---	2-5	2-5	---
basin big sagebrush	ARTRT	---	---	10-20	---	---	5-10
black sagebrush	ARARN	20-30	---	---	---	---	---
low sagebrush	ARAR8	---	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	10-20	---	---	---	---

Range site number	025XY057NV	025XY012NV	025XY027NV	025XY021NV	025XY017NV	025XY003NV
Potential production (lb/acre):						
Favorable years	700	1400	1300	600	900	4500
Normal years	500	1000	900	400	700	3500
Unfavorable years	300	700	500	250	400	2000

801--GOLLAHER-AMENE-ONKEYO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	AMENE	ONKEYO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	2-5	---	---
Cusick bluegrass	POCU3	---	---	---	---	---	---	5-10
Idaho fescue	FEID	---	5-15	5-15	2-5	2-10	20-30	50-65
Indian ricegrass	ORHY	2-8	---	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	10-20	---	---	2-8	---	---	---
basin wildrye	ELCI2	---	---	2-8	5-10	---	40-60	---
big bluegrass	POAM	---	---	---	---	---	2-8	---
bluebunch wheatgrass	AGSP	30-40	2-10	15-25	50-60	2-5	---	2-5
mountain brome	BRCA5	---	---	5-10	---	5-15	2-10	---
slender wheatgrass	AGTR	---	---	---	---	5-15	---	---
spike-fescue	LEKI2	---	---	---	---	2-10	---	---
Utah serviceberry	AMUT	---	---	2-8	---	1-5	---	---
antelope bitterbrush	PUTR2	---	2-8	2-10	2-10	1-5	---	---
black sagebrush	ARARN	20-30	---	---	---	---	---	---
common chokecherry	PRVI	---	---	---	---	1-5	---	---
mountain big sagebrush	ARVA2	---	2-5	10-20	5-15	5-15	2-5	2-8
serviceberry	AMELA	---	40-50	---	---	---	---	---
snowberry	SYMPH	---	2-8	---	---	2-15	---	---

Range site number	025XY057NV	025XY046NV	025XY042NV	025XY009NV	025XY004NV	025XY029NV	025XY010NV
Potential production (lb/acre):							
Favorable years	700	1800	700	1300	2800	2000	1200
Normal years	500	1300	500	900	1800	1700	800
Unfavorable years	300	900	300	700	1200	1300	600

802--GOLLAHER, STEEP-HACKWOOD-GOLLAHER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	HACKWOOD	GOLLAHER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	-	---	---	2-8	---	2-5	---
Idaho fescue	FEID	---	X	---	---	2-10	2-10	5-15
Indian ricegrass	ORHY	2-8	---	2-8	---	---	---	---
Letterman needlegrass	STLE4	---	---	---	2-5	2-5	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	2-5	---
Thurber needlegrass	STTH2	10-20	---	10-20	---	---	---	---
basin wildrye	ELCI2	---	---	---	---	5-15	---	---
bluebunch wheatgrass	AGSP	30-40	---	30-40	---	30-50	2-5	2-10
horsemint giant hyssop	AGUR	---	X	---	---	---	---	---
mountain brome	BRCA5	---	X	---	5-10	20-40	5-15	---
slender wheatgrass	AJTR	---	X	---	5-10	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	2-5	2-10	---
groundsel	SENEC	---	X	---	---	---	---	---
Utah serviceberry	AMUT	---	X	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	---	---	---	5-10	1-5	2-8
black sagebrush	ARARN	20-30	---	20-30	---	---	---	---
common chokecherry	PRVI	---	---	---	---	---	1-5	---
mountain big sagebrush	ARVA2	---	---	---	---	5-15	5-15	2-5
quaking aspen	POTRT	---	X	---	50-60	---	---	---
serviceberry	AMELA	---	---	---	---	---	---	40-50
snowberry	SYMPH	---	X	---	---	---	2-15	2-8
willow	SALIX	---	---	---	1-8	---	---	---
quaking aspen	POTRT	---	X	---	50-60	---	---	---

Range site number	025XY057NV	025XY065NV	025XY057NV	025XY002NV	025XY016NV	025XY004NV	025XY046NV
Potential production (lb/acre):							
Favorable years	700	800	700	1800	2000	2800	1800
Normal years	500	600	500	1300	1400	1800	1300
Unfavorable years	300	400	300	900	1000	1200	900

804--GOLLAHER-ONKEYO-NIRAC ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	ONKEYO	NIRAC	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	2-5	---	---
Idaho fescue	FEID	---	5-15	30-40	---	2-10	2-5	---
Indian ricegrass	ORHY	2-8	---	---	X	---	---	---
Nevada bluegrass	PONE3	---	---	2-5	---	2-5	2-5	---
Thurber needlegrass	STTH2	10-20	---	---	X	---	2-8	---
basin wildrye	ELCI2	---	2-8	2-10	X	---	5-10	---
bluebunch wheatgrass	AGSP	30-40	15-25	15-30	X	2-5	50-60	---
bluegrass	POA++	---	---	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	X	---	---	---
mountain brome	BRCA5	---	5-10	---	---	5-15	---	---
slender wheatgrass	AGTR	---	---	---	---	5-15	---	---
spike-fescue	LEKI2	---	---	---	---	2-10	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	X	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	X	---	---	---
Stansbury cliffrose	COMES	---	---	---	X	---	---	---
Utah serviceberry	AMUT	---	2-8	---	---	1-5	---	---
antelope bitterbrush	PUTR2	---	2-10	5-10	X	1-5	2-10	---
black sagebrush	ARARN	20-30	---	---	X	---	---	---
common chokecherry	PRVI	---	---	---	---	1-5	---	---
curlleaf mountainmahogany	CELE3	---	---	---	X	---	---	---
mountain big sagebrush	ARVA2	---	10-20	10-20	---	5-15	5-15	---
serviceberry	AMELA	---	---	---	X	---	---	---
snowberry	SYMPH	---	---	---	---	2-15	---	---
Utah juniper	JUOS	---	---	---	X	---	---	---
singleleaf pinyon	PIMO	---	---	---	X	---	---	---

Range site number	025XY057NV	025XY042NV	025XY012NV	028BY060NV	025XY004NV	025XY009NV	none
Potential production (lb/acre):							
Favorable years	700	700	1400	500	2800	1300	
Normal years	500	500	1000	300	1800	900	
Unfavorable years	300	300	700	250	1200	700	

805--GOLLAHER-EKIM-HAPGOOD ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	EKIM	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---	---
Idaho fescue	FEID	---	2-5	2-10	5-15	40-60	---	2-10
Indian ricegrass	ORHY	2-8	---	---	---	---	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	---	2-5
Nevada bluegrass	PONE3	---	2-5	2-5	---	2-8	---	2-5
Thurber needlegrass	STTH2	10-20	2-8	---	---	---	---	---
basin wildrye	ELCI2	---	5-10	---	---	2-8	---	5-15
bluebunch wheatgrass	AGSP	30-40	50-60	2-5	2-10	5-15	20-30	30-50
mountain brome	BRCA5	---	---	5-15	---	---	---	20-40
muttongrass	POFE	---	---	---	---	---	2-8	---
needlegrass	STIPA	---	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	5-15	---	---	---	---
spike-fescue	LEKI2	---	---	2-10	---	---	---	2-5
Utah serviceberry	AMUT	---	---	1-5	---	---	---	---
antelope bitterbrush	PUTR2	---	2-10	1-5	2-8	---	---	5-10
basin big sagebrush	ARTRT	---	---	---	---	10-20	---	---
black sagebrush	ARARN	20-30	---	---	---	---	---	---
common chokecherry	PRVI	---	---	1-5	---	---	---	---
mountain big sagebrush	ARVA2	---	5-15	5-15	2-5	---	15-25	5-15
serviceberry	AMELA	---	---	---	40-50	---	---	---
snowberry	SYMPH	---	---	2-15	2-8	---	2-8	---
curlleaf mountainmahogany	CELE3	---	---	---	---	---	15-25	---

Range site number	025XY057NV	025XY009NV	025XY004NV	025XY046NV	025XY027NV	028BY043NV	025XY016NV
Potential production (lb-acre):							
Favorable years	700	1300	2800	1800	1300	1700	2000
Normal years	500	900	1800	1300	900	1300	1400
Unfavorable years	300	700	1200	900	500	900	1000

806--GOLLAHER-SHALCLEAV-VITALE ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	SHALCLEAV	VITALE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	---	2-5
Idaho fescue	FEID	---	---	30-40	---	---	---	2-10
Indian ricegrass	ORHY	2-8	2-8	---	---	2-5	X	---
Nevada bluegrass	PONE3	---	---	2-5	---	---	---	2-5
Thurber needlegrass	STTH2	10-20	10-20	---	---	10-20	X	---
basin wildrye	ELCI2	---	---	2-10	---	---	---	---
bluebunch wheatgrass	AGSP	30-40	30-40	15-30	---	20-35	X	2-5
bluegrass	POA++	---	---	---	---	---	X	---
mountain brome	BRCA5	---	---	---	---	---	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	---	2-10
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	X	---
phlox	PHLOX	---	---	---	---	---	X	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	---	1-5
antelope bitterbrush	PUTR2	---	---	5-10	---	---	---	1-5
black sagebrush	ARARN	20-30	20-30	---	---	25-35	X	---
common chokecherry	PRVI	---	---	---	---	---	---	1-5
downy rabbitbrush	CHVIP4	---	---	---	---	---	X	---
mountain big sagebrush	ARVA2	---	---	10-20	---	---	---	5-15
snowberry	SYMPH	---	---	---	---	---	---	2-15
Utah juniper	JUOS	---	---	---	---	---	X	---

Range site number	025XY057NV	025XY057NV	025XY012NV	none	024XY031NV	025XY060NV	025XY004NV
Potential production (lb/acre):							
Favorable years	700	700	1400		700	400	2800
Normal years	500	500	1000		500	275	1800
Unfavorable years	300	300	700		300	150	1200

807--GOLLAHER-BELSAC ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GOLLAHER	BELSAC	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	2-5	---	---	---	---
Cusick bluegrass	POCU3	---	---	---	---	5-15	---
Idaho fescue	FEID	---	2-10	---	40-60	30-60	2-5
Indian ricegrass	ORHY	2-8	---	2-8	---	---	---
Nevada bluegrass	PONE3	---	2-5	---	2-8	---	2-5
Thurber needlegrass	STTH2	10-20	---	10-20	---	---	2-8
basin wildrye	ELCI2	---	---	---	2-8	---	5-10
bluebunch wheatgrass	AGSP	30-40	2-5	30-40	5-15	2-10	50-60
mountain brome	BRCA5	---	5-15	---	---	---	---
slender wheatgrass	AGTR	---	5-15	---	---	---	---
spike-fescue	LEKI2	---	2-10	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	2-5	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---
antelope bitterbrush	PUTR2	---	1-5	---	---	---	2-10
basin big sagebrush	ARTRT	---	---	---	10-20	---	---
black sagebrush	ARARN	20-30	---	20-30	---	25-35	---
common chokecherry	PRVI	---	1-5	---	---	---	---
mountain big sagebrush	ARVA2	---	5-15	---	---	---	5-15
snowberry	SYMPH	---	2-15	---	---	---	---
Range site number		025XY057NV	025XY004NV	025XY057NV	025XY027NV	024XY042NV	025XY009NV
Potential production (lb/acre):							
Favorable years		700	2800	700	1300	1000	1300
Normal years		500	1800	500	900	800	900
Unfavorable years		300	1200	300	500	500	700

808--GOLLAHER-CLEAVAGE-HAPGOOD ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	CLEAVAGE	HAPGOOD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	2-5	---	---	---	2-5
Idaho fescue	FEID	---	5-30	2-10	2-10	2-5	30-50	2-10
Indian ricegrass	ORHY	2-8	---	---	---	---	---	---
Letterman needlegrass	STLE4	---	---	---	2-5	---	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-5	2-5	---	2-5
Thurber needlegrass	STTH2	10-20	---	---	---	2-8	---	---
basin wildrye	ELCI2	---	---	---	5-15	5-10	---	---
bluebunch wheatgrass	AGSP	30-40	---	2-5	30-50	50-60	15-30	2-5
bluegrass	POA++	---	5-15	---	---	---	2-10	---
mountain brome	BRCA5	---	---	5-15	20-40	---	---	5-15
slender wheatgrass	AGTR	---	---	5-15	---	---	---	5-15
spike-fescue	LEKI2	---	---	2-10	2-5	---	---	2-10
goldenweed	HAPLO2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	1-5	---	---	---	1-5
antelope bitterbrush	PUTR2	---	---	1-5	5-10	2-10	2-5	1-5
black sagebrush	ARARN	20-30	---	---	---	---	---	---
common chokecherry	PRVI	---	---	1-5	---	---	---	1-5
low sagebrush	ARAR8	---	---	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	---	5-15	5-15	5-15	---	5-15
sagebrush	ARTEM	---	30-35	---	---	---	---	---
snowberry	SYMPH	---	---	2-15	---	---	---	2-15
Range site number		025XY057NV	025XY024NV	025XY004NV	025XY016NV	025XY009NV	025XY017NV	025XY004NV
Potential production (lb/acre):								
Favorable years		700	400	2800	2000	1300	900	2800
Normal years		500	275	1800	1400	900	700	1800
Unfavorable years		300	150	1200	1000	700	400	1200

809--GOLLAHER-XICA-SHALCLEAV ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		GOLLAHER	XICA	SHALCLEAV	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	---	5-30	---	2-10	15-30	---	---
Indian ricegrass	ORHY	2-8	---	2-8	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	10-20	---	10-20	---	2-5	---	---
bluebunch wheatgrass	AGSP	30-40	---	30-40	2-5	10-20	---	---
bluegrass	POA++	---	5-15	---	---	---	---	---
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike-fescue	LEKI2	---	---	---	2-10	---	---	---
goldenweed	HAPLO2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	---	---	---	1-5	20-40	---	---
black sagebrush	ARARN	20-30	---	20-30	---	---	---	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	---	---	---	5-15	5-10	---	---
sagebrush	ARTEM	---	30-35	---	---	---	---	---
snowberry	SYMPH	---	---	---	2-15	---	---	---
Range site number		025XY057NV	025XY024NV	025XY057NV	025XY004NV	025XY007NV	none	none
Potential production (lb/acre):								
Favorable years		700	400	700	2800	2300		
Normal years		500	275	500	1800	1400		
Unfavorable years		300	150	300	1200	900		

810--IGDELL-KLECKNER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		IGDELL	KLECKNER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	30-50	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	40-60	5-10	---
Sandberg bluegrass	POSE	---	---	---	---	---	2-8
Thurber needlegrass	STTH2	---	10-20	5-15	---	---	15-30
Webber needlegrass	STWE	---	---	---	---	---	2-8
alpine timothy	PHAL2	---	---	---	20-40	---	---
basin wildrye	ELCI2	---	2-8	2-5	2-8	60-70	---
bluebunch wheatgrass	AGSP	15-30	20-35	60-80	---	---	20-40
bluegrass	POA++	2-10	2-10	---	---	---	---
mat muhly	MURI	---	---	---	2-8	2-8	---
meadow barley	HOBR2	---	---	---	2-5	---	---
sedge	CAREX	---	---	---	2-8	---	---
streambank wheatgrass	AGDAR	---	---	---	---	2-8	---
Wyoming big sagebrush	ARTRW	---	---	5-15	---	---	---
antelope bitterbrush	PUTR2	2-5	2-8	1-5	---	---	---
basin big sagebrush	ARTRT	---	---	---	---	5-10	---
big sagebrush	ARTR2	---	10-20	---	---	---	---
low sagebrush	ARAR8	15-25	---	---	---	---	---
sagebrush	ARTEM	---	---	---	---	---	20-30
Range site number		025XY017NV	025XY014NV	025XY015NV	025XY006NV	025XY003NV	025XY018NV
Potential production (lb/acre):							
Favorable years		900	1000	1000	2000	4500	800
Normal years		700	800	700	1300	3500	600
Unfavorable years		400	600	500	800	2000	400

820--COTANT-EBODA-COSER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COTANT	EBODA	COSER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-50	40-60	30-50	---	---	40-60
Indian ricegrass	ORHY	---	---	---	---	2-8	---
Nevada bluegrass	PONE3	---	2-8	---	5-10	---	2-8
Thurber needlegrass	STTH2	---	---	---	---	10-20	---
basin wildrye	ELCI2	---	2-8	---	60-70	---	2-8
bluebunch wheatgrass	AGSP	15-30	5-15	15-30	---	30-40	5-15
bluegrass	POA++	2-10	---	2-10	---	---	---
mat muhly	MURI	---	---	---	2-8	---	---
streambank wheatgrass	AGDAR	---	---	---	2-8	---	---
antelope bitterbrush	PUTR2	2-5	---	2-5	---	---	---
basin big sagebrush	ARTRT	---	10-20	---	5-10	---	10-20
black sagebrush	ARARN	---	---	---	---	20-30	---
low sagebrush	ARAR8	15-25	---	15-25	---	---	---

Range site number	025XY017NV	025XY027NV	025XY017NV	025XY003NV	025XY057NV	025XY027NV
Potential production (lb/acre)						
Favorable years	900	1300	900	4500	700	1300
Normal years	700	900	700	3500	500	900
Unfavorable years	400	500	400	2000	300	500

822--COTANT-CHEN-GRALEY ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COTANT	CHEN	GRALEY	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-50	30-50	15-30	40-60	---	---
Indian ricegrass	ORHY	---	---	---	---	X	---
Nevada bluegrass	PONE3	---	---	---	2-8	---	---
Sandberg bluegrass	POSE	---	---	---	---	X	---
Thurber needlegrass	STTH2	---	---	2-5	---	X	---
basin wildrye	ELCI2	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	15-30	15-30	10-20	5-15	X	---
bluegrass	POA++	2-10	2-10	---	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	X	---
milkvetch	ASTRA	---	---	---	---	X	---
phlox	PHLOX	---	---	---	---	X	---
Wyoming big sagebrush	ARTRW	---	---	---	---	X	---
antelope bitterbrush	PUTR2	2-5	2-5	20-40	---	X	---
basin big sagebrush	ARTRT	---	---	---	10-20	---	---
low sagebrush	ARAR8	15-25	15-25	---	---	---	---
mountain big sagebrush	ARVA2	---	---	5-10	---	---	---
Utah juniper	JUOS	---	---	---	---	X	---
Range site number		025XY017NV	025XY017NV	025XY007NV	025XY027NV	025XY059NV	none
Potential production (lb/acre):							
Favorable years		900	900	2300	1300	500	
Normal years		700	700	1400	900	350	
Unfavorable years		400	400	900	500	200	

830--ONKEYO-PEQUOP-SUMINE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ONKEYO	PEQUOP	SUMINE	Inclusion 1	Inclusion 2
Idaho fescue	FEID	5-15	30-40	2-5	---	---
Indian ricegrass	ORHY	---	---	---	15-30	5-15
Nevada bluegrass	PONE3	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	---	---	2-8	---	15-30
basin wildrye	ELCI2	2-8	2-10	5-10	2-8	---
bluebunch wheatgrass	AGSP	15-25	15-30	50-60	---	---
bottlebrush squirreltail	SIHY	---	---	---	5-10	---
mountain brome	BRCA5	5-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---
globemallow	SPHAE	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	---	2-5	---	---	---
Utah serviceberry	AMUT	2-8	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	15-30	---
antelope bitterbrush	PUTR2	2-10	5-10	2-10	2-8	---
black sagebrush	ARARN	---	---	---	10-20	25-35
mountain big sagebrush	ARVA2	10-20	10-20	5-15	---	---
spiny hopsage	GRSP	---	---	---	2-5	---
Range site number		025XY042NV	025XY012NV	025XY009NV	025XY025NV	024XY030NV
Potential production (lb/acre):						
Favorable years		700	1400	1300	500	500
Normal years		500	1000	900	350	350
Unfavorable years		300	700	700	200	250

850--PAMISON-AFFEY-PAMISON, MODERATELY STEEP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PAMISON	AFFEY	PAMISON	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	---	30-40	---
Indian ricegrass	ORHY	2-5	---	2-5	5-15	---	2-5
Nevada bluegrass	PONE3	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	10-20	10-20	10-20	15-30	---	10-20
basin wildrye	ELCI2	---	2-8	---	---	2-10	---
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	---	15-30	20-35
bluegrass	POA++	---	2-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	---	2-5	---
globemallow	SPHAE	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	2-5	---
antelope bitterbrush	PUTR2	---	2-8	---	---	5-10	---
big sagebrush	ARTR2	---	10-20	---	---	---	---
black sagebrush	ARARN	25-35	---	25-35	25-35	---	25-35
mountain big sagebrush	ARVA2	---	---	---	---	10-20	---
Range site number		024XY031NV	025XY014NV	024XY031NV	024XY030NV	025XY012NV	024XY031NV
Potential production (lb/acre):							
Favorable years		700	1000	700	500	1400	700
Normal years		500	800	500	350	1000	500
Unfavorable years		300	600	300	250	700	300

851--PAMISON-AMTOFT-COSER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PAMISON	AMTOFT	COSER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	30-50	30-40	40-60	2-5
Indian ricegrass	ORHY	2-5	2-8	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	2-8	2-5
Thurber needlegrass	STTH2	10-20	10-20	---	---	---	2-8
basin wildrye	ELCI2	---	---	---	2-10	2-8	5-10
bluebunch wheatgrass	AGSP	20-35	30-40	15-30	15-30	5-15	50-60
bluegrass	POA**	---	---	2-10	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---
antelope bitterbrush	PUTR2	---	---	2-5	5-10	---	2-10
basin big sagebrush	ARTRT	---	---	---	---	10-20	---
black sagebrush	ARARN	25-35	20-30	---	---	---	---
low sagebrush	ARAR8	---	---	15-25	---	---	---
mountain big sagebrush	ARVA2	---	---	---	10-20	---	5-15
Range site number		024XY031NV	025XY057NV	025XY017NV	025XY012NV	025XY027NV	025XY009NV
Potential production (lb/acre):							
Favorable years		700	700	900	1400	1300	1300
Normal years		500	500	700	1000	900	900
Unfavorable years		300	300	400	700	500	700

880--HECKISON-XERXES-SHALPER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HECKISON	XERXES	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	30-40	40-60	---
Indian ricegrass	ORHY	---	---	---	---	---	X
Nevada bluegrass	PONE3	---	---	---	2-5	2-8	---
Thurber needlegrass	STTH2	10-20	15-25	15-25	---	---	X
basin wildrye	ELCI2	2-8	---	---	2-10	2-8	---
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	15-30	5-15	X
bluegrass	POA++	2-10	---	---	---	---	X
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	---	---	---	X
phlox	PHLOX	---	---	---	---	---	X
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---
Wyoming big sagebrush	ARTRW	---	20-30	20-30	---	---	---
antelope bitterbrush	PUTR2	2-8	2-5	2-5	5-10	---	---
basin big sagebrush	ARTRT	---	---	---	---	10-20	---
big sagebrush	ARTR2	10-20	---	---	---	---	---
black sagebrush	ARARN	---	---	---	---	---	X
downy rabbitbrush	CHVIP4	---	---	---	---	---	X
mountain big sagebrush	ARVA2	---	---	---	10-20	---	---
Utah juniper	JUOS	---	---	---	---	---	X
Range site number		025XY014NV	025XY021NV	025XY021NV	025XY012NV	025XY027NV	025XY060NV
Potential production (lb/acre):							
Favorable years		1000	600	600	1400	1300	400
Normal years		800	400	400	1000	900	275
Unfavorable years		600	250	250	700	500	150

881--GOCHEA-CHAYSON-PAMISON ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		GOCHEA	CHAYSON	PAMISON	Inclusion 1	Inclusion 2
Idaho fescue	FEID	---	40-60	---	30-40	---
Indian ricegrass	ORHY	---	---	2-5	---	---
Nevada bluegrass	PONE3	---	2-8	---	2-5	---
Sandberg bluegrass	POSE	---	---	---	---	2-8
Thurber needlegrass	STTH2	10-20	---	10-20	---	15-30
Webber needlegrass	STWE	---	---	---	---	2-8
basin wildrye	ELCI2	2-8	2-8	---	2-10	---
bluebunch wheatgrass	AGSP	20-35	5-15	20-35	15-30	20-40
bluegrass	POA++	2-10	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---
antelope bitterbrush	PUTR2	2-8	---	---	5-10	---
basin big sagebrush	ARTRT	---	10-20	---	---	---
big sagebrush	ARTR2	10-20	---	---	---	---
black sagebrush	ARARN	---	---	25-35	---	---
mountain big sagebrush	ARVA2	---	---	---	10-20	---
sagebrush	ARTEM	---	---	---	---	20-30

Range site number	025XY014NV	025XY027NV	024XY031NV	025XY012NV	025XY018NV
Potential production (lb/acre)					
Favorable years	1000	1300	700	1400	800
Normal years	800	900	500	1000	600
Unfavorable years	600	500	300	700	400

93.--OROVADA, NEARLY LEVEL-KELK-OROVADA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		OROVADA	KELK	OROVADA	Inclusion 1	Inclusion 2
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	2-5
Thurber needlegrass	STTH2	15-25	15-25	15-25	---	15-25
basin wildrye	ELCI2	---	---	---	55-65	---
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	---	25-40
creeping wildrye	ELTR3	---	---	---	5-15	---
western wheatgrass	AGSM	---	---	---	5-15	---
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	---	15-25
basin big sagebrush	ARTRT	---	---	---	10-15	---
black greasewood	SAVE4	---	---	---	2-8	---
Range site number		025XY019NV	025XY019NV	025XY019NV	024XY006NV	025XY019NV
Potential production (lb/acre):						
Favorable years		800	800	800	1500	800
Normal years		600	600	600	1100	600
Unfavorable years		400	400	400	600	400

931--OROVADA-OUPICO-IZAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		OROVADA	OUPICO	IZAR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	15-30	5-15	---	---	15-30
Sandberg bluegrass	POSE	2-5	---	---	2-5	---	---
Thurber needlegrass	STTH2	15-25	---	15-30	15-25	5-15	---
basin wildrye	ELCI2	---	5-10	---	---	2-5	2-8
bluebunch wheatgrass	AGSP	25-40	---	---	25-40	60-80	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	5-10
needleandthread	STCO4	---	30-40	---	---	---	---
globemallow	SPHAE	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	---	15-25	5-15	15-30
antelope bitterbrush	PUTR2	---	---	---	---	1-5	2-8
big sagebrush	ARTR2	---	15-25	---	---	---	---
black sagebrush	ARARN	---	---	25-35	---	---	10-20
spiny hopsage	GRSP	---	1-5	---	---	---	2-5

Range site number	025XY019NV	024XY017NV	024XY030NV	025XY019NV	025XY015NV	025XY025NV
Potential production (lb/acre):						
Favorable years	800	900	500	800	1000	500
Normal years	600	700	350	600	700	350
Unfavorable years	400	500	250	400	500	250

932--OROVADA-XIPE-OCALA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		OROVADA	XIPE	OCALA	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	---	5-15	---	---	5-10	5-10
Sandberg bluegrass	POSE	2-5	---	---	---	---	---
Thurber needlegrass	STTH2	15-25	---	---	---	---	---
alkali sacaton	SPAI	---	---	5-25	---	---	---
alpine timothy	PHAL2	---	---	---	---	---	5-10
basin wildrye	ELCI2	---	---	50-60	55-65	60-70	---
bluebunch wheatgrass	AGSP	25-40	---	---	---	---	---
creeping wildrye	ELTR3	---	---	---	5-15	---	---
inland saltgrass	DISPS2	---	2-5	---	---	---	---
mat muhly	MURI	---	2-5	---	---	2-8	---
sedge	CAREX	---	2-10	---	---	---	5-10
streambank wheatgrass	AGDAR	---	---	---	---	2-8	---
tufted hairgrass	DECE	---	---	---	---	---	30-60
western wheatgrass	AGSM	---	---	---	5-15	---	---
wildrye	ELYMU	---	60-80	---	---	---	---
Sierra clover	TRWO	---	---	---	---	---	2-5
cinquefoil	POTEN	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	15-25	---	---	---	---	---
basin big sagebrush	ARTRT	---	---	---	10-15	5-10	---
black greasewood	SAVE4	---	---	5-15	2-8	---	---
rubber rabbitbrush	CHNA2	---	---	2-5	---	---	---
willow	SALIX	---	5-10	---	---	---	---

Range site number	025XY019NV	025XY001NV	024XY007NV	024XY006NV	025XY003NV	025XY005NV
Potential production (lb/acre):						
Favorable years	800	3500	1900	1500	4500	3000
Normal years	600	2500	1400	1100	3500	1700
Unfavorable years	400	1800	800	600	2000	1000

940--HUNDRAW-ANOWELL-PEEKO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HUNDRAW	ANOWELL	PEEKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	5-15	2-5	5-15	5-15	5-15	---	---
Sandberg bluegrass	POSE	---	---	---	---	---	---	2-5
Thurber needlegrass	STTH2	15-30	10-20	15-30	15-30	15-30	5-15	15-25
basin wildrye	ELCI2	---	---	---	---	---	2-5	---
bluebunch wheatgrass	AGSP	---	20-35	---	---	---	60-80	25-40
globemallow	SPHAE	2-5	---	2-5	2-5	2-5	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	5-15	15-25
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5	---
black sagebrush	ARARN	25-35	25-35	25-35	25-35	25-35	---	---
Range site number		024XY030NV	024XY031NV	024XY030NV	024XY030NV	024XY030NV	025XY015NV	025XY019NV
Potential production (lb/acre):								
Favorable years		500	700	500	500	500	1000	800
Normal years		350	500	350	350	350	700	600
Unfavorable years		250	300	250	250	250	500	400

941--HUNDRAW-HUNDRAW, ERODED ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HUNDRAW	HUNDRAW	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	X	---	5-15	---
Sandberg bluegrass	POSE	---	---	2-5	---	2-5
Thurber needlegrass	STTH2	15-30	X	15-25	15-30	15-25
bluebunch wheatgrass	AGSP	---	X	25-40	---	25-40
bluegrass	POA++	---	X	---	---	---
globemallow	SPHAE	2-5	---	---	2-5	---
goldenweed	HAPLO2	---	X	---	---	---
phlox	PHLOX	---	X	---	---	---
Wyoming big sagebrush	ARTRW	---	---	15-25	---	15-25
black sagebrush	ARARN	25-35	X	---	25-35	---
downy rabbitbrush	CHVIP4	---	X	---	---	---
Utah juniper	JUOS	---	X	---	---	---
Range site number		024XY030NV	025XY060NV	025XY019NV	024XY030NV	025XY019NV
Potential production (lb/acre):						
Favorable years		500	400	800	500	800
Normal years		350	275	600	350	600
Unfavorable years		250	150	400	250	400

942--HUNDRAW-COBRE-ANOWELL ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable
Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNDRAW	COBRE	ANOWELL	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	X	---	2-5	---	---	5-15
Sandberg bluegrass	POSE	---	2-5	---	2-5	---	---
Thurber needlegrass	STTH2	X	15-25	15-20	15-25	10-20	15-30
basin wildrye	ELCI2	---	---	---	---	2-8	---
bluebunch wheatgrass	AGSP	X	25-40	20-35	25-40	20-35	--
bluegrass	POA++	X	---	---	---	2-10	---
globemallow	SPHAE	---	---	---	---	---	2-5
goldenweed	HAPLO2	X	---	---	---	---	---
phlox	PHLOX	X	---	---	---	---	--
Wyoming big sagebrush	ARTRW	---	15-25	---	15-25	---	---
antelope bitterbrush	PUTR2	---	---	---	---	2-8	---
big sagebrush	ARTR2	---	---	---	---	10-20	---
black sagebrush	ARARN	X	---	25-35	---	---	25-35
downy rabbitbrush	CHVIP4	X	---	---	---	---	---
Utah juniper	JUOS	X	---	---	---	---	---

Range site number	025XY066NV	025XY014NV	024XY031NV	025XY019NV	025XY014NV	024XY030NV
Potential production (lb./acre):						
Favorable years	400	800	700	800	1000	500
Normal years	275	600	500	600	800	350
Unfavorable years	150	400	300	400	600	250

943--HUNDRAW-PUETT-COBRE ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNDRAW	PUETT	COBRE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	X	X	---	2-5	---	15-30
Sandberg bluegrass	POSE	---	X	2-5	---	---	---
Thurber needlegrass	STTH2	X	X	15-25	10-20	10-20	---
basin wildrye	ELCI2	---	---	---	---	2-8	5-10
bluebunch wheatgrass	AGSP	X	X	25-40	20-35	20-35	---
bluegrass	POA++	X	---	---	---	2-10	---
bottlebrush squirreltail	SIHY	---	X	---	---	---	---
milkvetch	ASTRA	---	X	---	---	---	---
needleandthread	STCO4	---	---	---	---	---	30-40
phlox	PHLOX	X	X	---	---	---	---
goldenweed	HAPLO2	X	---	---	---	---	---
phlox	PHLOX	X	X	---	---	---	---
Wyoming big sagebrush	ARTRW	---	X	15-25	---	---	---
antelope bitterbrush	PUTR2	---	X	---	---	2-8	---
big sagebrush	ARTR2	---	---	---	---	10-20	15-25
black sagebrush	ARARN	X	---	---	25-35	---	---
downy rabbitbrush	CHVIP4	X	---	---	---	---	---
spiny hopsage	GRSP	---	---	---	---	---	1-5
Utah juniper	JUOS	X	X	---	---	---	---

Range site number	025XY060NV	025XY059NV	025XY019NV	024XY031NV	025XY014NV	024XY017NV
Potential production (lb/acre):						
Favorable years	400	500	800	700	1000	900
Normal years	275	350	600	500	800	700
Unfavorable years	150	200	400	300	600	500

944--HUNDRAW, ERODED-PEEKO-HUNDRAW ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNDRAW	PEEKO	HUNDRAW	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	X	5-15	5-15	X	2-5	---
Sandberg bluegrass	POSE	---	---	---	X	---	2-5
Thurber needlegrass	STTH2	X	15-30	15-30	X	10-20	15-25
bluebunch wheatgrass	AGSP	X	---	---	X	20-35	25-40
bluegrass	POA++	X	---	---	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	X	---	---
milkvetch	ASTRA	---	---	---	X	---	---
phlox	PHLOX	X	---	---	X	---	---
globemallow	SPHAE	---	2-5	2-5	---	---	---
goldenweed	HAPLO2	X	---	---	---	---	---
phlox	PHLOX	X	---	---	X	---	---
Wyoming big sagebrush	ARTRW	---	---	---	X	---	15-25
antelope bitterbrush	PUTR2	---	---	---	X	---	---
black sagebrush	ARARN	X	25-35	25-35	---	25-35	---
downy rabbitbrush	CHVIP4	X	---	---	---	---	---
Utah juniper	JUOS	X	---	---	X	---	---
Range site number		025XY060NV	024XY030NV	024XY030NV	025XY059NV	024XY031NV	025XY019NV
Potential production (lb/acre):							
Favorable years		400	500	500	500	700	800
Normal years		275	350	350	350	500	600
Unfavorable years		150	250	250	200	300	400

945--HUNDRAW-IZAR-IZAR, STEEP ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNDRAW	IZAR	IZAR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	X	5-15	5-15	2-5	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	X	15-30	15-30	10-20	15-25	15-25
bluebunch wheatgrass	AGSP	X	---	---	20-35	25-40	25-40
bluegrass	POA++	X	---	---	---	---	---
globemallow	SPHAE	---	2-5	2-5	---	---	---
goldenweed	HAPLO2	X	---	---	---	---	---
phlox	PHLOX	X	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	15-25	15-25
black sagebrush	ARARN	X	25-35	25-35	25-35	---	---
downy rabbitbrush	CHVIP4	X	---	---	---	---	---
Utah juniper	JUOS	X	---	---	---	---	---
Range site number		025XY060NV	024XY030NV	024XY030NV	024XY031NV	025XY019NV	025XY019NV
Potential production (lb/acre):							
Favorable years		400	500	500	700	800	800
Normal years		275	350	350	500	600	600
Unfavorable years		150	250	250	300	400	400

946--HUNDRAW-COBRE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HUNDRAW	COBRE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	---	15-30	---	5-15
Sandberg bluegrass	POSE	---	2-5	---	---	---
Thurber needlegrass	STTH2	15-30	15-25	---	5-15	15-30
basin wildrye	ELCI2	---	---	2-8	2-5	---
bluebunch wheatgrass	AGSP	---	25-40	---	60-80	---
bottlebrush squirreltail	SIHY	---	---	5-10	---	---
globemallow	SPHAE	2-5	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	15-25	15-30	5-15	---
antelope bitterbrush	PUTR2	---	---	2-8	1-5	---
black sagebrush	ARARN	25-35	---	10-20	---	25-35
spiny hopsage	GRSP	---	---	2-5	---	---
Range site number		024XY030NV	025XY019NV	025XY025NV	025XY015NV	024XY030NV
Potential production (lb/acre):						
Favorable years		500	800	500	1000	500
Normal years		350	600	350	700	350
Unfavorable years		250	400	200	500	250

947--HUNDRAW-KELK-HUNDRAW, ERODED ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HUNDRAW	KELK	HUNDRAW	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	X	---	X	5-15	---	5-15	---
Nevada bluegrass	PONE3	---	---	---	---	---	---	5-10
Sandberg bluegrass	POSE	---	2-5	---	---	2-5	---	---
Thurber needlegrass	STTH2	X	15-25	X	15-30	15-25	15-30	---
basin wildrye	ELCI2	---	---	---	---	---	---	60-70
bluebunch wheatgrass	AGSP	X	25-40	X	---	25-40	---	---
bluegrass	POA++	X	---	X	---	---	---	---
mat muhly	MURI	---	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
globemallow	SPHAE	---	---	---	2-5	---	2-5	---
goldenweed	HAPLO2	X	---	X	---	---	---	---
phlox	PHLOX	X	---	X	---	---	---	---
Wyoming big sagebrush	ARTRW	---	15-25	---	---	15-25	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
black sagebrush	ARARN	X	---	X	25-35	---	25-35	---
downy rabbitbrush	CHVIP4	X	---	X	---	---	---	---
Utah juniper	JUOS	X	---	X	---	---	---	---

Range site number	025XY060NV	025XY019NV	025XY060NV	024XY030NV	025XY019NV	024XY030NV	025XY003NV
Potential production (lb/acre):							
Favorable years	400	800	400	500	800	500	4500
Normal years	275	600	275	350	600	350	3500
Unfavorable years	150	400	150	250	400	250	2000

948--HUNDRAW-PUETT-TRINIDAD ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HUNDRAW	PUETT	TRINIDAD	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	X	X	2-5	15-30	2-5	2-5	15-30
Sandberg bluegrass	POSE	---	X	---	---	---	---	---
Thurber needlegrass	STTH2	X	X	10-20	---	10-20	10-20	---
basin wildrye	ELCI2	---	---	---	5-10	---	---	2-8
bluebunch wheatgrass	AGSP	X	X	20-35	---	20-35	20-35	---
bluegrass	POA++	X	---	---	---	---	---	---
bottlebrush squirreltail	SIHY	---	X	---	---	---	---	5-10
milkvetch	ASTRA	---	X	---	---	---	---	---
needleandthread	STCO4	---	---	---	30-40	---	---	---
phlox	PHLOX	X	X	---	---	---	---	---
goldenweed	HAPLO2	X	---	---	---	---	---	---
phlox	PHLOX	X	X	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	X	---	---	---	---	15-30
antelope bitterbrush	PUTR2	---	X	---	---	---	---	2-8
big sagebrush	ARTR2	---	---	---	15-25	---	---	---
black sagebrush	ARARN	X	---	25-35	---	25-35	25-35	10-20
downy rabbitbrush	CHVIP4	X	---	---	---	---	---	---
spiny hopsage	GRSP	---	---	---	1-5	---	---	2-5
Utah juniper	JUOS	X	X	---	---	---	---	---
Range site number		025XY060NV	025XY059NV	024XY031NV	024XY017NV	024XY031NV	024XY031NV	025XY025NV
Potential production (lb/acre):								
Favorable years		400	500	700	900	700	700	500
Normal years		275	350	500	700	500	500	350
Unfavorable years		150	200	300	500	300	300	200

949--HUNDRAW-QUOPANT-SHALPER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNDRAW	QUOPANT	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	---	---	30-40
Indian ricegrass	ORHY	X	2-5	---	---	X	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5
Sandberg bluegrass	POSE	---	---	---	---	X	---
Thurber needlegrass	STTH2	X	10-20	15-25	10-20	X	---
basin wildrye	ELCI2	---	---	---	2-8	---	2-10
bluebunch wheatgrass	AGSP	X	20-35	20-35	20-35	X	15-30
bluegrass	POA**	X	---	---	2-10	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	X	---
milkvetch	ASTRA	---	---	---	---	X	---
phlox	PHLOX	X	---	---	---	X	---
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5
goldenweed	HAPLO2	X	---	---	---	---	---
phlox	PHLOX	X	---	---	---	X	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	20-30	---	X	---
antelope bitterbrush	PUTR2	---	---	2-5	2-8	X	5-10
big sagebrush	ARTR2	---	---	---	10-20	---	---
black sagebrush	ARARN	X	25-35	---	---	---	---
downy rabbitbrush	CHVIP4	X	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20
Utah juniper	JUOS	X	---	---	---	X	---

Range site number	025XY060NV	024XY031NV	025XY021NV	025XY014NV	025XY059NV	025XY012NV
Potential production (lb/acre):						
Favorable years	400	700	600	1000	500	1400
Normal years	275	500	400	800	350	1000
Unfavorable years	150	300	250	600	200	700

961--TRINIDAD, STEEP-TRINIDAD-IZOD ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		TRINIDAD	TRINIDAD	IZOD	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	2-5	2-5	5-15	---	5-15	5-15
Sandberg bluegrass	POSE	---	---	---	---	---	10-15
Thurber needlegrass	STTH2	10-20	10-20	15-30	10-20	15-30	---
Webber needlegrass	STWE	---	---	---	---	---	2-5
basin wildrye	ELCI2	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	20-35	20-35	---	20-35	---	---
bluegrass	POA++	---	---	---	2-10	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5
eriogonum	ERIOG	---	---	---	---	---	2-5
globemallow	SPHAE	---	---	2-5	---	2-5	---
goldenweed	HAPLO2	---	---	---	---	---	2-5
phlox	PHLOX	---	---	---	---	---	2-5
antelope bitterbrush	PUTR2	---	---	---	2-8	---	---
big sagebrush	ARTR2	---	---	---	10-20	---	---
black sagebrush	ARARN	25-35	25-35	25-35	---	25-35	30-40
bud sagebrush	ARSP5	---	---	---	---	---	5-10
Range site number		024XY031NV	024XY031NV	024XY030NV	025XY014NV	024XY030NV	025XY026NV
Potential production (lb-acre):							
Favorable years		700	700	500	1000	500	200
Normal years		500	500	350	800	350	100
Unfavorable years		300	300	250	600	250	75

970--HUNEWILL-BILBO-DEVILSGAIT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		HUNEWILL	BILBO	DEVILSGAIT	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	---	---	5-10	---	---	---
Sandberg bluegrass	POSE	2-5	2-5	---	2-5	2-5	---
Thurber needlegrass	STTH2	15-25	15-25	---	15-25	15-25	---
alkali sacaton	SPAI	---	---	---	---	---	5-25
basin wildrye	ELCI2	---	---	60-70	---	---	50-60
bluebunch wheatgrass	AGSP	25-40	25-40	---	25-40	25-40	---
mat muhly	MURI	---	---	2-8	---	---	---
streambank wheatgrass	AGDAR	---	---	2-8	---	---	---
Wyoming big sagebrush	ARTRW	15-25	15-25	---	15-25	15-25	---
basin big sagebrush	ARTRT	---	---	5-10	---	---	---
black greasewood	SAVE4	---	---	---	---	---	5-15
rubber rabbitbrush	CHNA2	---	---	---	---	---	2-5
Range site number		025XY019NV	025XY019NV	025XY003NV	025XY019NV	025XY019NV	024XY007NV
Potential production (lb/acre):							
Favorable years		800	800	4500	800	800	1900
Normal years		600	600	3500	600	600	1400
Unfavorable years		400	400	2000	400	400	800

980--BOSO-DEWAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		BOSO	DEWAR	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	30-40	---	---	---	---
Nevada bluegrass	PONE3	2-5	---	---	---	5-10
Sandberg bluegrass	POSE	---	2-5	2-5	---	---
Thurber needlegrass	STTH2	---	15-25	15-25	10-20	---
basin wildrye	ELCI2	2-10	---	---	2-8	60-70
bluebunch wheatgrass	AGSP	15-30	25-40	25-40	20-35	---
bluegrass	POA++	---	---	---	2-10	---
mat muhly	MURI	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	15-25	15-25	---	---
antelope bitterbrush	PUTR2	5-10	---	---	2-8	---
basin big sagebrush	ARTRT	---	---	---	---	5-10
big sagebrush	ARTR2	---	---	---	10-20	---
mountain big sagebrush	ARVA2	10-20	---	---	---	---
Range site number		025XY012NV	025XY019NV	025XY019NV	025XY014NV	025XY003NV
Potential production (lb/acre):						
Favorable years		1400	800	800	1000	4500
Normal years		1000	600	600	800	3500
Unfavorable years		700	400	400	600	2000

990--BLUEHILL-TOMSHERRY-XERXES ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		BLUEHILL	TOMSHERRY	XERXES	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5	2-5	---	X	2-5	X	X
Nevada bluegrass	PONE3	5-10	5-10	---	---	5-10	---	---
Sandberg bluegrass	POSE	---	---	---	X	---	---	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	X	15-25	X	X
bluebunch wheatgrass	AGSP	20-40	20-40	20-35	X	20-40	X	X
bluegrass	POA++	---	---	---	---	---	X	X
bottlebrush squirreltail	SIHY	---	---	---	X	---	---	---
milkvetch	ASTRA	---	---	---	X	---	---	---
needleandthread	STCO4	2-5	2-5	---	---	2-5	---	---
phlox	PHLOX	---	---	---	X	---	X	X
thickspike wheatgrass	AGDA	2-5	2-5	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	---	---	---	X	X
phlox	PHLOX	---	---	---	X	---	X	X
Wyoming big sagebrush	ARTRW	---	---	20-30	X	---	---	---
antelope bitterbrush	PUTR2	---	---	2-5	X	---	---	---
big sagebrush	ARTR2	15-25	15-25	---	---	15-25	---	---
black sagebrush	ARARN	---	---	---	---	---	X	X
downy rabbitbrush	CHVIP4	---	---	---	---	---	X	X
Utah juniper	JUOS	---	---	---	X	---	X	X
Range site number		025XY066NV	025XY066NV	025XY021NV	025XY059NV	025XY066NV	025XY060NV	025XY060NV
Potential production (lb/acre):								
Favorable years		1000	1000	600	500	1000	400	400
Normal years		800	800	400	350	800	275	275
Unfavorable years		600	600	250	200	600	150	150

1010--AGASSIZ-CROESUS-RUBBLE LAND ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		AGASSIZ	CROESUS	RUBBLE LAND	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-5	---
Idaho fescue	FEID	---	---	---	X	---	2-10	5-15
Indian ricegrass	ORHY	2-5	2-5	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	5-10	5-10	---	---	---	---	---
basin wildrye	ELCI2	---	---	---	---	---	---	2-8
bluebunch wheatgrass	AGSP	5-10	5-10	---	---	---	2-5	15-25
bluegrass	POA++	2-8	2-8	---	---	---	---	---
bottlebrush squirreltail	SIHY	2-5	2-5	---	---	---	---	---
horsemint giant hyssop	AGUR	---	---	---	X	---	---	---
mountain brome	BRCA5	---	---	---	X	---	5-15	5-10
slender wheatgrass	AGTR	---	---	---	X	---	5-15	---
spike-fescue	LEKI2	---	---	---	---	---	2-10	---
groundsel	SENEC	---	---	---	X	---	---	---
Utah serviceberry	AMUT	---	---	---	X	---	1-5	2-8
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5	2-10
common chokecherry	PRVI	---	---	---	---	---	1-5	---
mountain big sagebrush	ARVA2	2-5	2-5	---	---	---	5-15	10-20
snowberry	SYMPH	---	---	---	X	---	2-15	---
curlleaf mountainmahogany	CELE3	50-70	50-70	---	---	---	---	---
quaking aspen	POTRT	---	---	---	X	---	---	---
Range site number		028BY042NV	028BY042NV	none	025XY065NV	none	025XY004NV	025XY042NV
Potential production (lb/acre):								
Favorable years		3000	3000		800		2800	700
Normal years		2400	2400		600		1800	500
Unfavorable years		1700	1700		400		1200	300

1040--GRAVIER-SHAFTER-TOANO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GRAVIER	SHAFTER	TOANO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	40-50	40-50	5-10	20-35	10-20	20-30
Sandberg bluegrass	POSE	---	---	---	2-8	---	2-5
bottlebrush squirreltail	SIHY	---	---	2-8	2-5	5-15	2-8
galleta	HIJA	2-8	2-8	---	---	---	---
needleandthread	STCO4	---	---	---	5-15	---	10-20
globemallow	SPHAE	2-5	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	25-35
black sagebrush	ARARN	---	---	---	25-35	---	---
bud sagebrush	ARSP5	2-8	2-8	---	---	10-25	---
downy rabbitbrush	CHVIP4	---	---	---	2-5	---	---
rabbitbrush	CHRYS9	---	---	---	---	---	2-5
shadscale	ATCO	1-5	1-5	---	2-5	40-50	---
winterfat	EULA5	25-30	25-30	60-70	---	---	---
Range site number		028AY002NV	028AY002NV	028BY018NV	028BY011NV	028BY017NV	028BY010NV
Potential production (lb/acre):							
Favorable years		800	800	500	600	400	800
Normal years		600	600	350	450	300	600
Unfavorable years		400	400	200	250	200	400

1041--GRAVIER-WIPFO ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		GRAVIER	WIPFO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	40-50	20-30	15-25	20-35	20-30	15-25
Sandberg bluegrass	POSE	---	2-5	---	2-8	2-5	---
bottlebrush squirreltail	SIHY	---	2-8	2-5	2-5	2-8	5-10
galleta	HIJA	2-8	---	---	---	---	---
needleandthread	STCO4	---	10-20	5-10	5-15	10-20	---
other perennial grasses	PPGG	---	---	---	---	---	2-5
globemallow	SPHAE	2-5	---	---	---	---	2-5
scarlet globemallow	SPCO	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	---	25-35	20-35	---	25-35	---
black sagebrush	ARARN	---	---	---	25-35	---	---
bud sagebrush	ARSP5	2-8	---	---	---	---	2-8
downy rabbitbrush	CHVIP4	---	---	---	2-5	---	---
fourwing saltbush	ATCA2	---	---	---	---	---	2-5
rabbitbrush	CHRYS9	---	2-5	---	---	2-5	---
shadscale	ATCO	1-5	---	2-5	2-5	---	---
spiny hopsage	GRSP	---	---	5-20	---	---	---
winterfat	EULA5	25-30	---	---	---	---	40-50

Range site number	028AY002NV	028BY010NV	028BY052NV	028BY011NV	028BY010NV	028BY013NV
Potential production (lb/acre)						
Favorable years	800	800	800	600	800	700
Normal years	600	600	600	450	600	500
Unfavorable years	400	400	450	250	400	350

1042--GRAVIER-PIBLER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		GRAVIER	PIBLER	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	10-25	20-35	20-35	15-25	10-20
Sandberg bluegrass	POSE	---	2-8	2-8	---	---
bluebunch wheatgrass	AGSP	---	---	---	---	20-40
bottlebrush squirreltail	SIHY	2-5	2-5	2-5	2-5	---
galleta	HIJA	2-8	---	---	---	---
muttongrass	POFE	---	---	---	---	2-8
needleandthread	STCO4	2-10	5-15	5-15	5-10	2-5
scarlet globemallow	SPCO	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	---	20-35	---
black sagebrush	ARARN	---	25-35	25-35	---	20-30
bud sagebrush	ARSP5	2-10	---	---	---	---
downy rabbitbrush	CHVIP4	---	2-5	2-5	---	---
shadscale	ATCO	15-25	2-5	2-5	2-5	---
spiny hopsage	GRSP	---	---	---	5-20	---
winterfat	EULA5	2-5	---	---	---	2-5
Range site number		028AY003NV	028BY011NV	028BY011NV	028BY052NV	028BY006NV
Potential production (lb/acre):						
Favorable years		250	600	600	800	800
Normal years		150	450	450	600	600
Unfavorable years		75	250	250	450	400

1043--GRAVIER-LUAP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		GRAVIER	LUAP	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	40-50	10-20	10-20	15-25	10-20
bottlebrush squirreltail	SIHY	---	5-15	5-15	2-5	5-15
galleta	HIJA	2-8	---	---	---	---
needleandthread	STCO4	---	---	---	5-10	---
globemallow	SPHAE	2-5	---	---	---	---
scarlet globemallow	SPCO	---	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	---	20-35	---
bud sagebrush	ARSPS	2-8	10-25	10-25	---	10-25
shadscale	ATCO	1-5	40-50	40-50	2-5	40-50
spiny hopsage	GRSP	---	---	---	5-20	---
winterfat	EULAS	25-30	---	---	---	---
Range site number		028AY002NV	028BY017NV	028BY017NV	028BY052NV	028BY017NV
Potential production (lb/acre):						
Favorable years		800	400	400	800	400
Normal years		600	300	300	600	300
Unfavorable years		400	200	200	450	200

1050--PIBLER-PIBLER, STRONGLY SLOPING-IZAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		PIBLER	PIBLER	IZAR	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	20-35	10-25	20-35	10-20	15-25	20-30	20-30
Sandberg bluegrass	POSE	2-8	2-5	2-8	---	---	2-5	2-5
bluebunch wheatgrass	AGSP	---	---	---	20-40	---	---	---
bottlebrush squirreltail	SIHY	2-5	---	2-5	---	5-10	2-8	2-8
galleta	HIJA	---	2-8	---	---	---	---	---
muttongrass	POFE	---	---	---	2-8	---	---	---
needleandthread	STCO4	5-15	2-10	5-15	2-5	---	10-20	10-20
other perennial grasses	PPGG	---	---	---	---	2-5	---	---
globemallow	SPHAE	---	---	---	---	2-5	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	25-35	25-35
black sagebrush	ARARN	25-35	15-30	25-35	20-30	---	---	---
bud sagebrush	ARSP5	---	---	---	---	2-8	---	---
downy rabbitbrush	CHVIP4	2-5	---	2-5	---	---	---	---
fourwing saltbush	ATCA2	---	---	---	---	2-5	---	---
rabbitbrush	CHRYS9	---	---	---	---	---	2-5	2-5
shadscale	ATCO	2-5	2-5	2-5	---	---	---	---
winterfat	EULA5	---	5-10	---	2-5	40-50	---	---
Range site number		028BY011NV	028AY004NV	028BY011NV	028BY006NV	028BY013NV	028BY010NV	028BY010NV
Potential production (lb/acre):								
Favorable years		600	500	600	800	700	800	800
Normal years		450	325	450	600	500	600	600
Unfavorable years		250	100	250	400	350	400	400

1051--PIBLER, BEDROCK SUBSTRATUM-PIBLER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		PIBLER	PIBLER	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	20-35	20-35	20-35	15-25	X
Sandberg bluegrass	POSE	2-8	2-8	2-8	---	---
Thurber needlegrass	STTH2	---	---	---	---	X
basin wildrye	ELCI2	---	---	---	---	X
bluebunch wheatgrass	AGSP	---	---	---	---	X
bluegrass	POA++	---	---	---	---	X
bottlebrush squirreltail	SIHY	2-5	2-5	2-5	2-5	X
needleandthread	STCO4	5-15	5-15	5-15	5-10	---
arrowleaf balsamroot	BASA3	---	---	---	---	X
scarlet globemallow	SPCO	---	---	---	2-5	---
tapertip hawksbeard	CRAC2	---	---	---	---	X
Stansbury cliffrose	COMES	---	---	---	---	X
Wyoming big sagebrush	ARTRW	---	---	---	20-35	---
antelope bitterbrush	PUTR2	---	---	---	---	X
black sagebrush	ARARN	25-35	25-35	25-35	---	X
curlleaf mountainmahogany	CELE3	---	---	---	---	X
downy rabbitbrush	CHVIP4	2-5	2-5	2-5	---	---
serviceberry	AMELA	---	---	---	---	X
shadscale	ATCO	2-5	2-5	2-5	2-5	---
spiny hopsage	GRSP	---	---	---	5-20	---
Utah juniper	JUOS	---	---	---	---	X
singleleaf pinyon	PIMO	---	---	---	---	X
Range site number		028BY011NV	028BY011NV	028BY011NV	028BY052NV	028BY060NV
Potential production (lb/acre):						
Favorable years		600	600	600	800	500
Normal years		450	450	450	600	300
Unfavorable years		250	250	250	450	250

1052--PIBLER-GRAVIER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PIBLER	GRAVIER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	20-35	40-50	20-30	15-25	20-30	20-35
Sandberg bluegrass	POSE	2-8	---	2-5	---	2-5	2-8
bottlebrush squirreltail	SIHY	2-5	---	2-8	5-10	2-8	2-5
galleta	HIJA	---	2-8	---	---	---	---
needleandthread	STCO4	5-15	---	10-20	---	10-20	5-15
other perennial grasses	PPGG	---	---	---	2-5	---	---
globemallow	SPHAE	---	2-5	---	2-5	---	---
Wyoming big sagebrush	ARTRW	---	---	25-35	---	25-35	---
black sagebrush	ARARN	25-35	---	---	---	---	25-35
bud sagebrush	ARSP5	---	2-8	---	2-8	---	---
downy rabbitbrush	CHVIP4	2-5	---	---	---	---	2-5
fourwing saltbush	ATCA2	---	---	---	2-5	---	---
rabbitbrush	CHRYS9	---	---	2-5	---	2-5	---
shadscale	ATCO	2-5	1-5	---	---	---	2-5
winterfat	EULA5	---	25-30	---	40-50	---	---
Range site number		028BY011NV	028AY002NV	028BY010NV	028BY013NV	028BY010NV	028BY011NV
Potential production (lb/acre):							
Favorable years		600	800	800	700	800	600
Normal years		450	600	600	500	600	450
Unfavorable years		250	400	400	350	400	250

1054--PIBLER-WIFFO ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		PIBLER	WIFFO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	20-35	20-35	X	20-35	10-20
Sandberg bluegrass	POSE	2-8	2-8	---	2-8	---
Thurber needlegrass	STTH2	---	---	X	---	---
bluebunch wheatgrass	AGSP	---	---	X	---	---
bluegrass	POA++	---	---	X	---	---
bottlebrush squirreltail	SIHY	2-5	2-5	---	2-5	5-15
needleandthread	STCO4	5-15	5-15	---	5-15	---
goldenweed	HAPLO2	---	---	X	---	---
phlox	PHLOX	---	---	X	---	---
black sagebrush	ARARN	25-35	25-35	X	25-35	---
bud sagebrush	ARSP5	---	---	---	---	10-25
downy rabbitbrush	CHVIP4	2-5	2-5	X	2-5	---
shadscale	ATCO	2-5	2-5	---	2-5	40-50
Utah juniper	JUOS	---	---	X	---	---
Range site number		028BY011NV	028BY011NV	025XY060NV	028BY011NV	028BY017NV
Potential production (lb/acre):						
Favorable years		600	600	400	600	400
Normal years		450	450	275	450	300
Unfavorable years		250	250	150	250	200

1055--PIBLER-GRAVIER-IZAR ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		PIBLER	GRAVIER	IZAR	Inclusion 1	Inclusion 2	Inclusion 3
Columbia needlegrass	STNE3	---	2-5	---	---	---	---
Idaho fescue	FEID	---	2-10	---	---	---	---
Indian ricegrass	ORHY	20-35	---	20-35	20-35	20-35	20-30
Nevada bluegrass	PONE3	---	2-5	---	---	---	---
Sandberg bluegrass	POSE	2-8	---	2-8	2-8	2-8	2-5
bluebunch wheatgrass	AGSP	---	2-5	---	---	---	---
bottlebrush squirreltail	SIHY	2-5	---	2-5	2-5	2-5	2-8
mountain brome	BRCA5	---	5-15	---	---	---	---
needleandthread	STCO4	5-15	---	5-15	5-15	5-15	10-20
slender wheatgrass	AGTR	---	5-15	---	---	---	---
spike-fescue	LEKI2	---	2-10	---	---	---	---
Utah serviceberry	AMUT	---	1-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	25-35
antelope bitterbrush	PUTR2	---	1-5	---	---	---	---
black sagebrush	ARARN	25-35	---	25-35	25-35	25-35	---
common chokecherry	PRVI	---	1-5	---	---	---	---
downy rabbitbrush	CHVIP4	2-5	---	2-5	2-5	2-5	---
mountain big sagebrush	ARVA2	---	5-15	---	---	---	---
rabbitbrush	CHRYS9	---	---	---	---	---	2-5
shadscale	ATCO	2-5	---	2-5	2-5	2-5	---
snowberry	SYMPH	---	2-15	---	---	---	---
Range site number		028BY011NV	025XY004NV	028BY011NV	028BY011NV	028BY011NV	028BY010NV
Potential production (lb/acre):							
Favorable years		600	2800	600	600	600	800
Normal years		450	1800	450	450	450	600
Unfavorable years		250	1200	250	250	250	400

1056--PIBLER-VALMY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		PIBLER	VALMY	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-15	2-5	5-15	5-15	---
Thurber needlegrass	STTH2	15-30	---	15-30	---	---
basin wildrye	ELCI2	---	5-20	---	---	15-20
bottlebrush squirreltail	SIHY	---	2-5	---	5-10	2-10
inland saltgrass	DISPS2	---	---	---	---	2-8
globemallow	SPHAE	2-5	1-2	2-5	---	---
thelypody	THELY	---	2-4	---	---	---
big sagebrush	ARTR2	---	10-25	---	---	---
black greasewood	SAVE4	---	20-30	---	---	50-65
black sagebrush	ARARN	25-35	---	25-35	---	---
bud sagebrush	ARSP5	---	---	---	20-30	---
shadscale	ATCO	---	---	---	30-40	---
spiny hopsage	GRSP	---	5-15	---	2-5	---
winterfat	EULAS	---	---	---	2-5	---
Range site number		024XY030NV	024XY022NV	024XY030NV	024XY002NV	024XY008NV
Potential production (lb/acre):						
Favorable years		500	800	500	750	700
Normal years		350	600	350	450	450
Unfavorable years		250	350	250	300	300

1060--KZIN-HOLBORN-KZIN, ERODED ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		KZIN	HOLBORN	KZIN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	X	10-25	X	---	---	2-5	2-5
Nevada bluegrass	PONE3	---	---	---	---	5-10	---	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	---	---
Thurber needlegrass	STTH2	X	---	X	---	---	10-20	30-40
alkali sacaton	SPAI	---	---	---	15-40	---	---	---
basin wildrye	ELCI2	X	---	X	40-60	60-70	---	---
bluebunch wheatgrass	AGSP	X	---	X	---	---	20-35	15-30
bluegrass	POA++	X	---	X	---	---	---	2-8
bottlebrush squirreltail	SIHY	X	---	X	---	---	---	---
galleta	HIJA	---	2-8	---	---	---	---	---
inland saltgrass	DISPS2	---	---	---	2-5	---	---	---
needleandthread	STCO4	---	2-10	---	---	---	---	2-8
western wheatgrass	AGSM	---	---	---	2-5	---	---	---
wheatgrass	AGROP2	---	---	---	---	5-10	---	---
arrowleaf balsamroot	BASA3	X	---	X	---	---	---	2-5
tapertip hawksbeard	CRAC2	X	---	X	---	---	---	2-5
Stansbury cliffrose	COMES	X	---	X	---	---	---	---
antelope bitterbrush	PUTR2	X	---	X	---	---	---	2-10
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black greasewood	SAVE4	---	---	---	5-15	---	---	---
black sagebrush	ARARN	X	15-30	X	---	---	25-35	---
curlleaf mountainmahogany	CELE3	X	---	X	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	5-15	---	---
rubber rabbitbrush	CHNA2	---	---	---	2-5	---	---	---
serviceberry	AMELA	X	---	X	---	---	---	---
shadscale	ATCO	---	2-5	---	---	---	---	---
willow	SALIX	---	---	---	---	2-5	---	---
winterfat	EULA5	---	5-10	---	---	---	---	---
Utah juniper	JUOS	X	---	X	---	---	---	---
singleleaf pinyon	PIMO	X	---	X	---	---	---	---

Range site number	028BY060NV	028AY004NV	028BY060NV	028BY004NV	028BY024NV	024XY031NV	028BY007NV
Potential production (lb/acre).							
Favorable years	500	500	500	2200	4000	700	1000
Normal years	300	325	300	1500	2500	500	800
Unfavorable years	250	100	250	800	1500	300	600

1062--KZIN-COBRE-JACKPOT ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		KZIN	COBRE	JACKPOT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	X	20-30	15-30	10-20	X	20-35	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	2-8	---
Thurber needlegrass	STTH2	X	---	---	---	X	---	---
basin wildrye	ELCI2	X	---	5-10	---	---	---	---
bluebunch wheatgrass	AGSP	X	---	---	---	X	---	---
bluegrass	POA++	X	---	---	---	X	---	---
bottlebrush squirreltail	SIHY	X	2-8	---	2-5	---	2-5	---
needleandthread	STCO4	---	10-20	30-40	---	---	5-15	---
arrowleaf balsamroot	BASA3	X	---	---	---	---	---	---
globemallow	SPHAE	---	---	---	2-5	---	---	---
goldenweed	HAPLO2	---	---	---	---	X	---	---
phlox	PHLOX	---	---	---	---	X	---	---
tapertip hawksbeard	CRAC2	X	---	---	---	---	---	---
Stansbury cliffrose	COMES	X	---	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	25-35	---	---	---	---	---
antelope bitterbrush	PUTR2	X	---	---	---	---	---	---
big sagebrush	ARTR2	---	---	15-25	---	---	---	---
black sagebrush	ARARN	X	---	---	---	X	25-35	---
curlleaf mountainmahogany	CELE3	X	---	---	---	---	---	---
downy rabbitbrush	CHVIP4	---	---	---	---	X	2-5	---
fourwing saltbush	ATCA2	---	---	---	15-30	---	---	---
rabbitbrush	CHRYS9	---	2-5	---	---	---	---	---
serviceberry	AMELA	X	---	---	---	---	---	---
shadscale	ATCO	---	---	---	---	---	2-5	---
spiny hopsage	GRSP	---	---	1-5	10-20	---	---	---
winterfat	EULA5	---	---	---	2-5	---	---	---
Utah juniper	JUOS	X	---	---	---	X	---	---
singleleaf pinyon	PIMO	X	---	---	---	---	---	---

Range site number	028BY060NV	028BY010NV	024XY017NV	028BY078NV	025XY060NV	028BY011NV	none
Potential production (lb/acre):							
Favorable years	500	800	900	600	400	600	
Normal years	300	600	700	500	275	450	
Unfavorable years	250	400	500	400	150	250	

1064--KZIN-GOLSUM-GOLSUM, ERODED ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		KZIN	GOLSUM	GOLSUM	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Canby bluegrass	POCA	---	---	X	---	---	---	---
Idaho fescue	FEID	---	40-60	---	---	---	---	---
Indian ricegrass	ORHY	X	---	X	2-5	2-5	10-20	15-30
Nevada bluegrass	PONE3	---	2-8	---	---	---	---	---
Sandberg bluegrass	POSE	---	---	X	---	---	---	---
Thurber needlegrass	STTH2	X	---	X	10-20	10-20	---	---
basin wildrye	ELCI2	X	2-8	X	---	---	---	5-10
bluebunch wheatgrass	AGSP	X	5-15	X	20-35	20-35	20-40	---
bluegrass	POA++	X	---	---	---	---	---	---
bottlebrush squirreltail	SIHY	X	---	X	---	---	---	---
muttongrass	POFE	---	---	---	---	---	2-8	---
needleandthread	STCO4	---	---	---	---	---	2-5	30-40
arrowleaf balsamroot	BASA3	X	---	X	---	---	---	---
tapertip hawksbeard	CRAC2	X	---	X	---	---	---	---
Stansbury cliffrose	COMES	X	---	---	---	---	---	---
antelope bitterbrush	PUTR2	X	---	X	---	---	---	---
basin big sagebrush	ARTRT	---	10-20	---	---	---	---	---
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	X	---	---	25-35	25-35	20-30	---
curlleaf mountainmahogany	CELE3	X	---	---	---	---	---	---
ephedra	EPHED	---	---	X	---	---	---	---
mountain big sagebrush	ARVA2	---	---	X	---	---	---	---
serviceberry	AMELA	X	---	X	---	---	---	---
spiny hopsage	GRSP	---	---	---	---	---	---	1-5
winterfat	EULA5	---	---	---	---	---	2-5	---
Utah juniper	JUOS	X	---	X	---	---	---	---
singleleaf pinyon	PIMO	X	---	X	---	---	---	---

Range site number	028BY060NV	025XY027NV	028BY062NV	024XY031NV	024XY031NV	028BY006NV	024XY017NV
Potential production (lb/acre):							
Favorable years	500	1300	700	700	700	800	900
Normal years	300	900	500	500	500	600	700
Unfavorable years	250	500	300	300	300	400	500

17--LORAY LUAR PLANT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		LORAY	LUAR	TUANT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	15-20	15-20	5-10	15-25	15-20	15-20	15-25
bottlebrush squirreltail	SIHY	5-10	5-10	2-5	5-10	2-5	2-5	5-10
other perennial grasses	PPGG	---	---	---	2-5	---	---	2-5
globemallow	SPHAE	---	---	---	2-5	2-5	2-5	2-5
bud sagebrush	ARSP5	15-25	10-20	---	2-8	---	---	2-8
fourwing saltbush	ATCA2	---	---	---	2-5	15-30	15-30	2-5
shadscale	ATCO	40-50	40-50	---	---	---	---	---
spiny hopsage	GRSP	---	---	---	---	10-20	10-20	---
winterfat	KRLA5	---	---	5-10	40-50	2-5	2-5	40-50

Range site number	028BY017NV	028BY017NV	028BY017NV	028BY013NV	028BY078NV	028BY078NV	028BY013NV
Potential production (lb/acre):							
Favorable years	400	400	500	700	600	600	700
Normal years	300	300	350	500	450	500	500
Unfavorable years	200	200	200	350	400	400	350

1071--LORAY-LUAP ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community;

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		LORAY	LUAP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	10-20	10-20	10-20	10-20	5-10	5-10
bottlebrush squirreltail	SIHY	2-5	5-15	5-15	5-15	2-8	2-8
globemallow	SPHAE	2-5	---	---	---	---	---
bud sagebrush	ARSP5	---	10-25	10-25	10-25	---	---
fourwing saltbush	ATCA2	15-30	---	---	---	---	---
shadscale	ATCO	---	40-50	40-50	40-50	---	---
spiny hopsage	GRSP	10-20	---	---	---	---	---
winterfat	EULA5	2-5	---	---	---	60-70	60-70
Range site number		028BY079NV	028BY017NV	028BY017NV	028BY017NV	028BY018NV	028BY018NV
Potential production (lb/acre):							
Favorable years		600	400	400	400	500	500
Normal years		500	300	300	300	350	350
Unfavorable years		400	200	200	200	200	200

1072--LORAY, LOAMY FINE SAND-LORAY-HARDHAT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or inclusion number--				
		LORAY	LORAY	HARDHAT	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	10-20	10-20	1-5	10-20	20-30
Sandberg bluegrass	POSE	---	---	---	---	2-5
bottlebrush squirreltail	SIHY	2-5	5-15	5-10	2-5	2-8
needleandthread	STCO4	---	---	---	---	10-20
globemallow	SPHAE	2-5	---	---	2-5	---
Wyoming big sagebrush	ARTRW	---	---	---	---	25-35
bud sagebrush	ARSP5	---	10-25	---	---	---
fourwing saltbush	ATCA2	15-30	---	---	15-30	---
rabbitbrush	CHRYS9	---	---	---	---	2-5
shadscale	ATCO	---	40-50	85-90	---	---
spiny hopsage	GRSP	10-20	---	---	10-20	---
winterfat	EULA5	2-5	---	---	2-5	---
Range site number		028BY078NV	028BY017NV	028BY073NV	028BY078NV	028BY010NV
Potential production (lb/acre):						
Favorable years		600	450	400	600	800
Normal years		500	350	300	500	600
Unfavorable years		400	250	200	400	400

1120--ASHART-ZARK ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- ASHART	ZARK	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5	15-25	2-5	---	2-5	15-25
Nevada bluegrass	PONE3	5-10	2-5	5-10	---	5-10	2-5
Thurber needlegrass	STTH2	15-25	2-8	15-25	15-25	15-25	2-8
bluebunch wheatgrass	AGSP	20-40	2-5	20-40	20-35	20-40	2-5
needleandthread	STCO4	2-5	20-35	2-5	---	2-5	20-35
thickspike wheatgrass	AGDA	2-5	2-8	2-5	---	2-5	2-8
Wyoming big sagebrush	ARTRW	---	---	---	20-30	---	---
antelope bitterbrush	PUTR2	---	---	---	2-5	---	---
big sagebrush	ARTR2	15-25	15-25	15-25	---	15-25	15-25

Range site number	025XY066NV	025XY045NV	025XY066NV	025XY021NV	025XY066NV	025XY045NV
Potential production (lb/acre):						
Favorable years	1000	800	1000	600	1000	800
Normal years	800	600	800	400	800	600
Unfavorable years	600	400	600	250	600	400

1140--ELGCIN-STAMPEDE-DONNA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ELGCIN	STAMPEDE	DONNA	Inclusion 1	Inclusion 2
Idaho fescue	FEID	---	---	---	30-50	---
Nevada bluegrass	PONE3	---	---	---	---	5-10
Sandberg bluegrass	POSE	2-8	---	2-8	---	---
Thurber needlegrass	STTH2	15-30	10-20	15-30	---	---
Webber needlegrass	STWE	2-8	---	2-8	---	---
basin wildrye	ELCI2	---	2-8	---	---	60-70
bluebunch wheatgrass	AGSP	20-40	20-35	20-40	15-30	---
bluegrass	POA++	---	2-10	---	2-10	---
mat muhly	MURI	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	2-8
antelope bitterbrush	PUTR2	---	2-8	---	2-5	---
basin big sagebrush	ARTRT	---	---	---	---	5-10
big sagebrush	ARTR2	---	10-20	---	---	---
low sagebrush	ARAR8	---	---	---	15-25	---
sagebrush	ARTEM	20-30	---	20-30	---	---
Range site number		025XY018NV	025XY014NV	025XY018NV	025XY017NV	025XY003NV
Potential production (lb/acre)						
Favorable years		800	1000	800	900	4500
Normal years		600	800	600	700	3500
Unfavorable years		400	600	400	500	2000

1141--ELOCIN-DONNA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		ELOCIN	DONNA	Inclusion 1	Inclusion 2	Inclusion 3
Nevada bluegrass	PONE3	---	---	5-10	5-10	---
Sandberg bluegrass	POSE	2-8	2-8	---	---	---
Thurber needlegrass	STTH2	15-30	15-30	---	---	10-20
Webber needlegrass	STWE	2-8	2-8	---	---	---
alpine timothy	PHAL2	---	---	5-10	---	---
basin wildrye	ELCI2	---	---	---	60-70	2-8
bluebunch wheatgrass	AGSP	20-40	20-40	---	---	20-35
bluegrass	POA++	---	---	---	---	2-10
mat muhly	MURI	---	---	---	2-8	---
sedge	CAREX	---	---	5-10	---	---
streambank wheatgrass	AGDAR	---	---	---	2-8	---
tufted hairgrass	DECE	---	---	30-60	---	---
Sierra clover	TRWO	---	---	2-5	---	---
cinquefoil	POTEN	---	---	2-5	---	---
antelope bitterbrush	PUTR2	---	---	---	---	2-8
basin big sagebrush	ARTRT	---	---	---	5-10	---
big sagebrush	ARTR2	---	---	---	---	10-20
sagebrush	ARTEM	20-30	20-30	---	---	---
Range site number		025XY018NV	025XY018NV	025XY005NV	025XY003NV	025XY014NV
Potential production (lb acre).						
Favorable years		800	800	3000	4500	1000
Normal years		600	600	1700	3500	800
Unfavorable years		400	400	1000	2000	600

1190--TWEENER-SHALPER-CLEAVAGE ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TWEENER	SHALPER	CLEAVAGE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	15-30	---	30-50	---	30-40	2-5	---
Indian ricegrass	ORHY	---	---	---	---	---	---	X
Nevada bluegrass	PONE3	---	-	---	---	2-5	2-5	---
Sandberg bluegrass	POSE	-	-	---	---	---	---	X
Thurber needlegrass	STTH2	2-5	15-25	---	---	---	2-8	X
basin wildrye	ELCI2	---	---	---	---	2-10	5-10	---
bluebunch wheatgrass	AGSP	15-20	20-35	15-30	---	15-30	50-60	X
bluegrass	POA++	--	---	2-10	---	---	---	---
bottlebrush squirreltail	SIHY	-	---	---	---	---	---	X
milkvetch	ASTRA	---	---	---	---	---	---	X
phlox	PHLOX	---	---	---	---	---	---	X
arrowleaf balsamroot	BASA3	---	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	2-5	---	---
Wyoming big sagebrush	ARTRW	- -	20-30	---	---	---	---	X
antelope bitterbrush	PUTR2	20-40	2-5	2-5	---	5-10	2-10	X
low sagebrush	ARAR8	---	---	15-25	---	---	---	---
mountain big sagebrush	ARVA2	5-10	---	---	---	10-20	5-15	---
Utah juniper	JUOS	---	---	---	---	---	---	X

Range site number	025XY007NV	025XY011NV	025XY013NV	none	025XY012NV	025XY009NV	025XY059NV
Potential production (lb/acre):							
Favorable years	2300	600	900		1400	1300	500
Normal years	1400	400	700		1000	900	350
Unfavorable years	900	250	400		700	700	200

1191--TWEENER, STEEP-TWEENER-GRALEY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number--						
		TWEENER	TWEENER	GRALEY	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	2-5	---	---	---
Idaho fescue	FEID	15-30	15-30	30-40	2-10	5-30	---	5-15
Nevada bluegrass	PONE3	---	---	2-5	2-5	---	5-10	---
Thurber needlegrass	STTHI	2-5	2-5	---	---	---	---	---
basin wildrye	ELCI2	---	---	2-10	---	---	60-70	---
bluebunch wheatgrass	AGSP	10-20	10-20	15-30	2-5	---	---	2-10
bluegrass	POA**	---	---	---	---	5-15	---	---
cat muhly	MUFI	---	---	---	---	---	2-8	---
mountain brome	BRCA5	---	---	---	5-15	---	---	---
slender wheatgrass	AGTR	---	---	---	5-15	---	---	---
spike fescue	LEKI	---	---	---	2-10	---	---	---
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Utah serviceberry	AMUT	---	---	---	1-5	---	---	---
antelope bitterbrush	PUTR2	20-40	20-40	5-10	1-5	---	---	2-8
basin big sagebrush	ARTRT	---	---	---	---	---	5-10	---
common chokecherry	PRVI	---	---	---	1-5	---	---	---
mountain big sagebrush	ARVA2	5-10	5-10	10-20	5-15	---	---	2-5
sagebrush	ARTEM	---	---	---	---	30-35	---	---
serviceberry	AMELA	---	---	---	---	---	---	40-50
snowberry	SYMPH	---	---	---	2-15	---	---	2-8

Range site number	025XY006NV	025XY007NV	025XY010NV	025XY004NV	025XY024NV	025XY003NV	025XY046NV
Potential production (lb/acre)							
Favorable years	2300	2300	2400	2900	4000	4500	1800
Normal years	1400	1400	1500	1900	2750	3500	1300
Unfavorable years	900	900	900	1200	1500	2000	900

1206--XERXES-BLUEHILL ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community.)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number					
		XERXES	BLUEHILL	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	--	2-5	2-5	---	---	5-15
Nevada bluegrass	PONE3	---	5-10	5-10	---	---	---
Sandberg bluegrass	POSE	---	---	-	---	2-6	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	15-20	15-30	15-30
Webber needlegrass	STWE	---	---	---	---	2-8	---
basin wildrye	ELCI	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	20-35	20-40	20-40	20-35	20-40	---
bluegrass	POA++	---	--	---	2-10	---	---
needleandthread	STCO4	---	2-5	2-5	---	---	---
thickspike wheatgrass	AGDA	---	2-5	2-5	---	---	---
globemallow	SPHAE	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTFW	2-10	---	---	---	---	---
antelope bitterbrush	PUTR2	2-5	---	---	2-5	---	---
big sagebrush	ARTR2	---	15-25	15-25	15-25	---	---
black sagebrush	ARARN	---		-	---	---	25-35
sagebrush	ARTEM	---	-	-	---	2-10	---
Range site number		R25XY011NV	R25XY014NV	R25XY044NV	R25XY114NV	R25XY118NV	R24XY030NV
Potential production (lb/acre)							
Favorable years		600	1,000	1,000	1000	800	500
Normal years		400	500	500	500	600	350
Unfavorable years		150	200	200	200	400	250

1201--XERXES-ZARK-ASHART ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or inclusion number--						
		XERXES	ZARK	ASHART	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	15-25	2-5	---	---	X	---
Nevada bluegrass	PONE3	---	2-5	5-10	---	---	---	5-10
Thurber needlegrass	STTH2	15-25	2-8	15-25	15-25	15-25	X	---
basin wildrye	ELCI2	---	---	---	---	---	---	60-70
bluebunch wheatgrass	AGSP	20-35	2-5	20-40	20-35	20-35	X	---
bluegrass	POA++	---	---	---	---	---	X	---
mat muhly	MURI	---	---	---	---	---	---	2-8
needleandthread	STCO4	---	20-35	2-5	---	---	---	---
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
thickspike wheatgrass	AGDA	---	2-8	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	X	---
phlox	PHLOX	---	---	---	---	---	X	---
Wyoming big sagebrush	ARTRW	20-30	---	---	20-30	20-30	---	---
antelope bitterbrush	PUTR2	2-5	---	---	2-5	2-5	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
big sagebrush	ARTR2	---	15-25	15-25	---	---	---	---
black sagebrush	ARARN	---	---	---	---	---	X	---
downy rabbitbrush	CHVIP4	---	---	---	---	---	X	---
Utah juniper	JUOS	---	---	---	---	---	X	---

Range site number	025XY021NV	025XY045NV	025XY066NV	025XY021NV	025XY021NV	025XY060NV	025XY003NV
Potential production (lb/acre):							
Favorable years	600	800	1000	600	600	400	4500
Normal years	400	600	800	400	400	275	3500
Unfavorable years	250	400	600	250	250	150	2000

1203--XERXES, MODERATELY STEEP-XERXES-SHALPER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		XERXES	XERXES	SHALPER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	2-5	---	---
Indian ricegrass	ORHY	---	---	---	2-8	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	5-10	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	10-20	2-8	---	---
basin wildrye	ELCI2	---	---	---	---	5-10	60-70	---
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	30-40	50-60	---	---
mat muhly	MURI	---	---	---	---	---	2-8	---
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8	---
Wyoming big sagebrush	ARTRW	20-30	20-30	20-30	---	---	---	---
antelope bitterbrush	PUTR2	2-5	2-5	2-5	---	2-10	---	---
basin big sagebrush	ARTRT	---	---	---	---	---	5-10	---
black sagebrush	ARARN	---	---	---	20-30	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	5-15	---	---
Range site number		025XY021NV	025XY021NV	025XY021NV	025XY057NV	025XY009NV	025XY003NV	none
Potential production (lb/acre):								
Favorable years		600	600	600	700	1300	4500	
Normal years		400	400	400	500	900	3500	
Unfavorable years		250	250	250	300	700	2000	

12o4--XERXES-SHALPER-BLUEHILL ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		XERXES	SHALPER	BLUEHILL	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	2-5	X	15-25	2-8
Nevada bluegrass	PONE3	---	---	5-10	---	2-5	---
Sandberg bluegrass	POSE	---	---	---	X	---	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	X	2-8	10-20
bluebunch wheatgrass	AGSP	20-35	20-35	20-40	X	2-5	30-40
bottlebrush squirreltail	SIHY	---	---	---	X	---	---
milkvetch	ASTRA	---	---	---	X	---	---
needleandthread	STCO4	---	---	2-5	---	20-35	---
phlox	PHLOX	---	---	---	X	---	---
thickspike wheatgrass	AGDA	---	---	2-5	---	2-8	---
Wyoming big sagebrush	ARTRW	20-30	20-35	---	X	---	---
antelope bitterbrush	PUTR2	2-5	2-5	---	X	---	---
big sagebrush	ARTR2	---	---	15-25	---	15-25	---
black sagebrush	ARARN	---	---	---	---	---	20-30
Utah juniper	JUOS	---	---	---	X	---	---
Range site number		025XY021NV	025XY021NV	025XY066NV	025XY059NV	025XY046NV	025XY057NV
Potential production (lb acre):							
Favorable years		600	600	1000	500	800	700
Normal years		400	400	800	350	600	500
Unfavorable years		250	250	600	200	400	300

1400--NEVADOR-ZAPA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		NEVADOR	ZAPA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	5-15	5-15	---	---	---
Sandberg bluegrass	POSE	2-5	---	---	2-5	2-5	2-5
Thurber needlegrass	STTH2	15-25	15-30	15-30	15-25	15-25	5-15
bluebunch wheatgrass	AGSP	25-40	---	---	25-40	25-40	25-35
globemallow	SPHAE	---	2-5	2-5	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5
Wyoming big sagebrush	ARTFW	15-25	---	---	15-25	15-25	---
black sagebrush	ARAR8	---	25-35	25-35	---	---	25-35
Range site number		025XY019NV	024XY030NV	024XY030NV	025XY019NV	025XY019NV	025XY055NV
Potential production (lb/acre):							
Favorable years		800	500	500	800	800	500
Normal years		600	350	350	600	600	375
Unfavorable years		400	250	250	400	400	250

2000--SHUTTLE-SHAFTER-LORAY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHUTTLE	SHAFTER	LORAY	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-10	40-50	10-20	5-10	20-35	15-25
Sandberg bluegrass	POSE	---	---	---	---	2-8	---
bottlebrush squirreltail	SIHY	2-8	---	5-15	2-8	2-5	5-10
galleta	HIJA	---	2-8	---	---	---	---
needleandthread	STCO4	---	---	---	---	5-15	---
other perennial grasses	PPGG	---	---	---	---	---	2-5
globemallow	SPHAE	---	2-5	---	---	---	2-5
black sagebrush	ARARN	---	---	---	---	25-35	---
bud sagebrush	ARSP5	---	2-8	10-25	---	---	2-8
downy rabbitbrush	CHVIP4	---	---	---	---	2-5	---
fourwing saltbush	ATCA2	---	---	---	---	---	2-5
shadscale	ATCO	---	1-5	40-50	---	2-5	---
winterfat	EULA5	60-70	25-30	---	60-70	---	40-50
Range site number		028BY018NV	028AY002NV	028BY017NV	028BY018NV	028BY011NV	028BY013NV
Potential production (lb/acre):							
Favorable years		500	800	400	500	600	700
Normal years		350	600	300	350	450	500
Unfavorable years		200	400	200	200	250	350

2001--SHUTTLE-HARDHAT-SHUTTLE, LOAMY SUBSTRATUM ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		SHUTTLE	HARDHAT	SHUTTLE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	5-10	3-5	5-10	15-25	10-20	5-10
bottlebrush squirreltail	SIHY	2-8	5-10	2-8	5-10	5-15	2-8
other perennial grasses	PPGG	---	---	---	2-5	---	---
globemallow	SPHAE	---	---	---	2-5	---	---
bud sagebrush	ARSP5	---	---	---	2-8	10-25	---
fourwing saltbush	ATCA2	---	---	---	2-5	---	---
shadscale	ATCO	---	85-90	---	---	40-50	---
winterfat	EULA5	65-70	---	60-70	40-50	---	60-70
Range site number		028BY018NV	028BY013NV	028BY018NV	028BY013NV	028BY017NV	028BY018NV
Potential production (lb/acre)							
Favorable years		500	400	500	700	400	500
Normal years		350	300	350	500	300	350
Unfavorable years		200	200	200	350	200	200

2010--WIFFO VARIANT EXTREMELY STONY SANDY LOAM, 2 TO 8 PERCENT SLOPES, RARELY FLOODED

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		WIFFO VARIANT	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	10-20	20-30	20-35
Sandberg bluegrass	POSE	---	---	2-5	2-8
bottlebrush squirreltail	SIHY	---	5-15	2-8	2-5
needleandthread	STCO4	---	---	10-20	5-15
Wyoming big sagebrush	ARTRW	---	---	25-35	---
black sagebrush	ARARN	---	---	---	25-35
bud sagebrush	ARSP5	---	10-25	---	---
downy rabbitbrush	CHVIP4	---	---	---	2-5
rabbitbrush	CHRYS9	---	---	2-5	---
shadscale	ATCO	---	40-50	---	2-5
snowbrush ceanothus	CEVE	70-80	---	---	---
Range site number		025XY052NV	028BY017NV	028BY010NV	028BY011NV
Potential production (lb/acre):					
Favorable years		2800	400	800	600
Normal years		2000	300	600	450
Unfavorable years		1200	200	400	250

2030--CAVEHILL-NIRAC-GOLLAHER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		CAVEHILL	NIRAC	GOLLAHER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	---	2-5
Idaho fescue	FEID	X	30-40	---	---	---	5-15	2-10
Indian ricegrass	ORHY	---	---	2-8	X	2-5	---	---
Nevada bluegrass	PONE3	X	2-5	---	---	---	---	2-5
Thurber needlegrass	STTH2	---	---	10-20	X	10-20	---	---
arrowleaf balsamroot	BASA3	X	2-5	---	X	---	---	---
basin wildrye	ELCI2	X	2-10	---	X	---	2-8	---
bluebunch wheatgrass	AGSP	X	15-30	30-40	X	20-35	15-25	2-5
bluegrass	POA++	---	---	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	X	---	---	---
mountain brome	BRCA5	---	---	---	---	---	5-10	5-15
slender wheatgrass	AGTR	---	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	---	2-10
arrowleaf balsamroot	BASA3	X	2-5	---	X	---	---	---
tapertip hawksbeard	CRAC2	X	2-5	---	X	---	---	---
Stansbury cliffrose	COMES	---	---	---	X	---	---	---
Utah serviceberry	AMUT	X	---	---	---	---	2-8	1-5
antelope bitterbrush	PUTR2	X	5-10	---	X	---	2-10	1-5
black sagebrush	ARARN	---	---	20-30	X	25-35	---	---
common chokecherry	PRVI	---	---	---	---	---	---	1-5
curlleaf mountainmahogany	CELE3	X	---	---	X	---	---	---
mountain big sagebrush	ARVA2	X	10-20	---	---	---	10-20	5-15
serviceberry	AMELA	---	---	---	X	---	---	---
snowberry	SYMPH	X	---	---	---	---	---	2-15
Utah juniper	JUOS	---	---	---	X	---	---	---
singleleaf pinyon	PIMO	X	---	---	X	---	---	---

Range site number	025XY061NV	025XY012NV	025XY057NV	028BY060NV	024XY031NV	025XY042NV	025XY004NV
Potential production (lb acre):							
Favorable years	500	1400	700	500	700	700	2800
Normal years	375	1000	500	300	500	500	1800
Unfavorable years	250	700	300	250	300	300	1200

2040--SODHOUSE-LORAY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		SODHOUSE	LORAY	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	10-20	10-20	15-25	10-20
bottlebrush squirreltail	SIHY	5-15	5-15	5-10	2-5
other perennial grasses	PPGG	---	---	2-5	---
globemallow	SPHAE	---	---	2-5	2-5
bud sagebrush	ARSP5	10-25	10-25	2-8	---
fourwing saltbush	ATCA2	---	---	2-5	15-30
shadscale	ATCO	40-50	40-50	---	---
spiny hopsage	GRSP	---	---	---	10-20
winterfat	EULA5	---	---	40-50	2-5
Range site number		028BY017NV	028BY017NV	028BY013NV	028BY078NV
Potential production (lb/acre):					
Favorable years		400	400	700	600
Normal years		300	300	500	500
Unfavorable years		200	200	350	400

2042--SODHOUSE-PIBLER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		SODHOUSE	PIBLER	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	10-20	20-35	15-25	20-35	15-25
Sandberg bluegrass	POSE	---	2-8	---	2-8	---
bottlebrush squirreltail	SIHY	5-15	2-5	5-10	2-5	2-5
needleandthread	STCO4	---	5-15	---	5-15	5-10
other perennial grasses	PPGG	---	---	2-5	---	---
globemallow	SPHAE	---	---	2-5	---	---
scarlet globemallow	SPCO	---	---	---	---	2-5
Wyoming big sagebrush	ARTRW	---	---	---	---	20-35
black sagebrush	ARARN	---	25-35	---	25-35	---
bud sagebrush	ARSP5	10-25	---	2-8	---	---
downy rabbitbrush	CHVIP4	---	2-5	---	2-5	---
fourwing saltbush	ATCA2	---	---	2-5	---	---
shadscale	ATCO	40-50	2-5	---	2-5	2-5
spiny hopsage	GRSP	---	---	---	---	5-20
winterfat	EULA5	---	---	40-50	---	---
Range site number		028BY017NV	028BY011NV	028BY013NV	028BY011NV	028BY052NV
Potential production (lb/acre):						
Favorable years		400	600	700	600	800
Normal years		300	450	500	450	600
Unfavorable years		200	250	350	250	450

2050--HOPEKA-TECOMAR ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HOPEKA	TECOMAR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	X	2-5	---	2-8	10-20
Thurber needlegrass	STTH2	X	10-20	---	10-20	---
basin wildrye	ELCI2	X	---	---	---	---
bluebunch wheatgrass	AGSP	X	20-35	---	30-40	20-40
bluegrass	POA++	X	---	---	---	---
bottlebrush squirreltail	SIHY	X	---	---	---	---
muttongrass	POFE	---	---	---	---	2-8
needleandthread	STCO4	---	---	---	---	2-5
arrowleaf balsamroot	BASA3	X	---	---	---	---
tapertip hawksbeard	CRAC2	X	---	---	---	---
Stansbury cliffrose	COMES	X	---	---	---	---
antelope bitterbrush	PUTR2	X	---	---	---	---
black sagebrush	ARARN	X	25-35	---	20-30	20-30
curlleaf mountainmahogany	CELE3	X	---	---	---	---
serviceberry	AMELA	X	---	---	---	---
winterfat	EULA5	---	---	---	---	2-5
Utah juniper	JUOS	X	---	---	---	---
singleleaf pinyon	PIMO	X	---	---	---	---
Range site number		028BY060NV	024XY031NV	none	025XY057NV	028BY006NV
Potential production (lb/acre):						
Favorable years		500	700		700	800
Normal years		300	500		500	600
Unfavorable years		250	300		300	400

2051--HOPEKA-KZIN-ROCK OUTCROP ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions: Soil name or Inclusion number-- HOPEKA	KZIN	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	---	2-5	---
Indian ricegrass	ORHY	X	X	---	---	2-5	---	2-5
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	X	X	---	---	10-20	2-8	30-40
basin wildrye	ELCI2	X	X	---	---	---	5-10	---
bluebunch wheatgrass	AGSP	X	X	---	---	20-35	50-60	15-30
bluegrass	POA++	X	X	---	---	---	---	2-8
bottlebrush squirreltail	SIHY	X	X	---	---	---	---	---
needleandthread	STCO4	---	---	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	X	X	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	X	X	---	---	---	---	2-5
Stansbury cliffrose	COMES	X	X	---	---	---	---	---
antelope bitterbrush	PUTR2	X	X	---	---	---	2-10	2-10
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	X	X	---	---	25-35	---	---
curlleaf mountainmahogany	CELE3	X	X	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	5-15	---
serviceberry	AMELA	X	X	---	---	---	---	---
Utah juniper	JUOS	X	X	---	---	---	---	---
singleleaf pinyon	PIMO	X	X	---	---	---	---	---
Range site number		028BY060NV	028BY060NV	none	none	024XY031NV	025XY009NV	028BY007NV
Potential production (lb/acre):								
Favorable years		500	500			700	1300	1000
Normal years		300	300			500	900	800
Unfavorable years		250	250			300	700	600

2053--HOPEKA-TECOMAR-NIRAC ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		HOPEKA	TECOMAR	NIRAC	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	30-40	5-15	---	---	---
Indian ricegrass	ORHY	X	2-5	---	---	2-8	---	---
Nevada bluegrass	PONE3	---	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	X	10-20	---	---	10-20	---	10-20
basin wildrye	ELCI2	X	---	2-10	2-8	---	---	2-8
bluebunch wheatgrass	AGSP	X	20-35	15-30	15-25	30-40	---	20-35
bluegrass	POA++	X	---	---	---	---	---	2-10
bottlebrush squirreltail	SIHY	X	---	---	---	---	---	---
mountain brome	BRCA5	---	---	---	5-10	---	---	---
arrowleaf balsamroot	BASA3	X	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	X	---	2-5	---	---	---	---
Stansbury cliffrose	COMES	X	---	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	2-8	---	---	---
antelope bitterbrush	PUTR2	X	---	5-10	2-10	---	---	2-8
big sagebrush	ARTR2	---	---	---	---	---	---	10-20
black sagebrush	ARARN	X	25-35	---	---	20-30	---	---
curlleaf mountainmahogany	CELE3	X	---	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-20	10-20	---	---	---
serviceberry	AMELA	X	---	---	---	---	---	---
Utah juniper	JUOS	X	---	---	---	---	---	---
singleleaf pinyon	PIMO	X	---	---	---	---	---	---

Range site number	028BY060NV	024XY031NV	025XY012NV	025XY042NV	025XY057NV	none	025XY014NV
Potential production (lb/acre):							
Favorable years	500	700	1400	700	700		1000
Normal years	300	500	1000	500	500		800
Unfavorable years	250	300	700	300	300		600

2054--HOPEKA-ROCK OUTCROP ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		HOPEKA	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	30-40	---	---
Indian ricegrass	ORHY	X	---	---	2-5	---
Nevada bluegrass	PONE3	---	---	2-5	---	---
Thurber needlegrass	STTH2	X	---	---	10-20	10-20
basin wildrye	ELCI2	X	---	2-10	---	2-8
bluebunch wheatgrass	AGSP	X	---	15-30	20-35	20-35
bluegrass	POA++	X	---	---	---	2-10
bottlebrush squirreltail	SIHY	X	---	---	---	---
arrowleaf balsamroot	BASA3	X	---	2-5	---	---
tapertip hawksbeard	CRAC2	X	---	2-5	---	---
Stansbury cliffrose	COMES	X	---	---	---	---
antelope bitterbrush	PUTR2	X	---	5-10	---	2-8
big sagebrush	ARTR2	---	---	---	---	10-20
black sagebrush	ARARN	X	---	---	25-35	---
curlleaf mountainmahogany	CELE3	X	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-20	---	---
serviceberry	AMELA	X	---	---	---	---
Utah juniper	JUOS	X	---	---	---	---
singleleaf pinyon	PIMO	X	---	---	---	---
Range site number		028BY060NV	none	025XY012NV	024XY031NV	025XY014NV
Potential production (lb/acre):						
Favorable years		500		1400	700	1000
Normal years		300		1000	500	800
Unfavorable years		250		700	300	600

2060--APPIAN-KAWICH, FINE SAND-KAWICH ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		APPIAN	KAWICH	KAWICH	Inclusion 1	Inclusion 2	Inclusion 3
Canby bluegrass	POCA	X	---	X	---	---	---
Indian ricegrass	ORHY	---	35-45	---	2-10	2-10	2-8
Sandberg bluegrass	POSE	X	---	X	---	---	---
basin wildrye	ELCI2	X	---	X	10-20	10-20	---
bluebunch wheatgrass	AGSP	X	---	X	---	---	---
bottlebrush squirreltail	SIHY	X	---	X	---	---	2-5
galleta	HIJA	---	2-8	---	---	---	---
muttongrass	POFE	X	---	X	---	---	---
needleandthread	STCO4	---	2-8	---	---	---	---
sand dropseed	SPCR	---	2-5	---	---	---	---
western wheatgrass	AGSM	---	---	---	---	---	5-15
arrowleaf balsamroot	BASA3	X	---	X	---	---	---
globemallow	SPHAE	---	2-5	---	---	---	---
tapertip hawksbeard	CRAC2	X	---	X	---	---	---
antelope bitterbrush	PUTR2	X	---	X	---	---	---
big sagebrush	ARTR2	---	---	---	20-30	20-30	---
black greasewood	SAVE4	---	---	---	30-40	30-40	---
bud sagebrush	ARSP5	---	2-10	---	---	---	---
curlleaf mountainmahogany	CELE3	X	---	X	---	---	---
mountain big sagebrush	ARVA2	X	---	X	---	---	---
rubber rabbitbrush	CHNA2	---	---	---	2-5	2-5	---
serviceberry	AMELA	X	---	X	---	---	---
shadscale	ATCO	---	20-30	---	---	---	2-5
sickle saltbush	ATFA	---	---	---	---	---	55-65
snowberry	SYMPH	X	---	X	---	---	---
winterfat	EULA5	---	5-15	---	---	---	5-15
Utah juniper	JUOS	X	---	X	---	---	---
singleleaf pinyon	PIMO	X	---	X	---	---	---

Range site number	028BY058NV	028AY018NV	028BY058NV	028BY028NV	028BY028NV	028BY047NV
Potential production (lb/acre):						
Favorable years	500	700	500	800	800	500
Normal years	300	500	300	600	600	350
Unfavorable years	200	300	200	400	400	200

2070--KAWICH-KAWICH, FINE SAND-IXIAN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		KAWICH	KAWICH	IXIAN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-10	35-45	---	2-10	2-10	2-5	---
alkali sacaton	SPAI	---	---	5-10	---	---	---	15-40
basin wildrye	ELCI2	10-20	---	2-5	10-20	10-20	---	40-60
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5	---
galleta	HIJA	---	2-8	---	---	---	---	---
inland saltgrass	DISPS2	---	---	2-8	---	---	---	2-5
needleandthread	STCO4	---	2-8	---	---	---	---	---
sand dropseed	SPCR	---	2-5	---	---	---	---	---
western wheatgrass	AGSM	---	---	---	---	---	---	2-5
globemallow	SPHAE	---	2-5	---	---	---	---	---
big sagebrush	ARTR2	20-30	---	---	20-30	20-30	---	---
black greasewood	SAVE4	30-40	---	60-75	30-40	30-40	20-30	5-15
bud sagebrush	ARSP5	---	2-10	---	---	---	2-10	---
rubber rabbitbrush	CHNA2	2-5	---	2-5	2-5	2-5	---	2-5
shadscale	ATCO	---	20-30	2-5	---	---	20-50	---
winterfat	EULA5	---	5-15	---	---	---	---	---

Range site number	028BY028NV	028AY018NV	028BY020NV	028BY028NV	028BY028NV	028BY074NV	028BY004NV
Potential production (lb/acre)							
Favorable years	800	700	500	800	800	600	2200
Normal years	600	500	300	600	600	400	1500
Unfavorable years	400	300	150	400	400	200	800

2080--TOANO-TOANO, OCCASIONALLY FLOODED ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		TOANO	TOANO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-8	5-10	15-25	20-30	---	20-30
Sandberg bluegrass	POSE	---	---	---	2-5	---	2-5
alkali sacaton	SPAI	---	---	---	---	5-10	---
basin wildrye	ELCI2	---	---	---	---	2-5	---
bottlebrush squirreltail	SIHY	2-5	2-8	5-10	2-8	---	2-8
inland saltgrass	DISPS2	---	---	---	---	2-8	---
needleandthread	STCO4	---	---	---	10-20	---	10-20
other perennial grasses	PPGG	---	---	2-5	---	---	---
western wheatgrass	AGSM	5-15	---	---	---	---	---
globemallow	SPHAE	---	---	2-5	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	25-35	---	25-35
black greasewood	SAVE4	---	---	---	---	60-75	---
bud sagebrush	ARSP5	---	---	2-8	---	---	---
fourwing saltbush	ATCA2	---	---	2-5	---	---	---
rabbitbrush	CHRYS9	---	---	---	2-5	---	2-5
rubber rabbitbrush	CHNA2	---	---	---	---	2-5	---
shadscale	ATCO	2-5	---	---	---	2-5	---
sickle saltbush	ATFA	55-65	---	---	---	---	---
winterfat	EULA5	5-15	60-70	40-50	---	---	---

Range site number	028BY047NV	028BY018NV	028BY013NV	028BY010NV	028BY020NV	028BY010NV
Potential production (lb/acre):						
Favorable years	500	500	700	800	500	800
Normal years	350	350	500	600	300	600
Unfavorable years	200	200	350	400	150	400

2081--TOANO-TULASE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		TOANO	TULASE	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	2-8	---	---	5-10
Sandberg bluegrass	POSE	---	2-5	2-5	---
Thurber needlegrass	STTH2	---	15-25	15-25	---
bluebunch wheatgrass	AGSP	---	25-40	25-40	---
bottlebrush squirreltail	SIHY	2-5	---	---	2-8
western wheatgrass	AGSM	5-15	---	---	---
Wyoming big sagebrush	ARTRW	---	15-25	15-25	---
shadscale	ATCO	2-5	---	---	---
sickle saltbush	ATFA	55-65	---	---	---
winterfat	EULA5	5-15	---	---	60-70
Range site number		028BY047NV	025XY019NV	025XY019NV	028BY018NV
Potential production (lb/acre):					
Favorable years		500	800	800	500
Normal years		350	600	600	350
Unfavorable years		200	400	400	200

2090--TOANO-ENKO-SONDOA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		TOANO	ENKO	SONDOA	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	5-10	20-30	2-8	10-20	20-35
Sandberg bluegrass	POSE	---	2-5	---	---	2-8
bottlebrush squirreltail	SIHY	2-8	2-8	2-5	5-15	2-5
needleandthread	STCO4	---	10-20	---	---	5-15
western wheatgrass	AGSM	---	---	5-15	---	---
Wyoming big sagebrush	ARTRW	---	25-35	---	---	---
black sagebrush	ARARN	---	---	---	---	25-35
bud sagebrush	ARSP5	---	---	---	10-25	---
downy rabbitbrush	CHVIP4	---	---	---	---	2-5
rabbitbrush	CHRYS9	---	2-5	---	---	---
shadscale	ATCO	---	---	2-5	40-50	2-5
sickle saltbush	ATFA	---	---	55-65	---	---
winterfat	EULA5	60-70	---	5-15	---	---
Range site number		028BY018NV	028BY010NV	028BY047NV	028BY017NV	028BY011NV
Potential production (lb/acre):						
Favorable years		500	800	500	400	600
Normal years		350	600	350	300	450
Unfavorable years		200	400	200	200	250

3001--IXIAN-VALMY ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions			
		Soil name or Inclusion number--			
		IXIAN	VALMY	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	---	2-5	---	---
Nevada bluegrass	PONE3	---	---	5-10	---
alkali bluegrass	POJU	---	---	---	5-15
alkali cordgrass	SPGR	---	---	---	5-10
alkali muhly	MUAS	---	---	---	10-20
alkali sacaton	SPAI	5-10	---	---	15-40
basin wildrye	ELCI2	2-5	5-20	60-70	2-5
bottlebrush squirreltail	SIHY	---	2-5	---	---
inland saltgrass	DISPS2	2-8	---	---	5-10
mat muhly	MURI	---	---	2-8	---
streambank wheatgrass	AGDAR	---	---	2-8	---
arrowgrass	TRIGL	---	---	---	1-3
globemallow	SPHAE	---	1-2	---	---
thelypody	THELY	---	2-4	---	---
basin big sagebrush	ARTRT	---	---	5-10	---
big sagebrush	ARTR2	---	10-25	---	---
black greasewood	SAVE4	60-75	20-30	---	---
rubber rabbitbrush	CHNA2	2-5	---	---	---
shadscale	ATCO	2-5	---	---	---
spiny hopsage	GRSP	---	5-15	---	---
Range site number		028BY020NV	024XY022NV	025XY003NV	024XY009NV
Potential production (lb/acre):					
Favorable years		500	800	4500	1500
Normal years		300	600	3500	1000
Unfavorable years		150	350	2000	700

3008--TECOMAR-SUMINE-KRAM ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		TECOMAR	SUMINE	KRAM	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	2-5	---	30-40	---	---
Indian ricegrass	ORHY	2-5	---	X	---	---	---
Nevada bluegrass	PONE3	---	2-5	---	2-5	---	---
Thurber needlegrass	STTH2	10-20	2-8	X	---	10-20	---
basin wildrye	ELCI2	---	5-10	---	2-10	2-8	---
bluebunch wheatgrass	AGSP	20-35	50-60	X	15-30	20-35	---
bluegrass	POA++	---	---	X	---	2-10	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	X	---	---	---
phlox	PHLOX	---	---	X	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---
antelope bitterbrush	PUTR2	---	2-10	---	5-10	2-8	---
big sagebrush	ARTR2	---	---	---	---	10-20	---
black sagebrush	ARARN	25-35	---	X	---	---	---
downy rabbitbrush	CHVIP4	---	---	X	---	---	---
mountain big sagebrush	ARVA2	---	5-15	---	10-20	---	---
Utah juniper	JUOS	---	---	X	---	---	---
Range site number		024XY031NV	025XY009NV	025XY060NV	025XY012NV	025XY014NV	none
Potential production (lb/acre):							
Favorable years		700	1300	400	1400	1000	
Normal years		500	900	275	1000	800	
Unfavorable years		300	700	150	700	600	

3009--TECOMAR-SHALCLEAV-GOLLAHER ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TECOMAR	SHALCLEAV	GOLLAHER	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	---	2-5
Idaho fescue	FEID	---	---	---	30-50	5-15	2-5	2-10
Indian ricegrass	ORHY	2-5	2-8	2-8	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	10-20	10-20	10-20	---	---	2-8	---
basin wildrye	ELCI2	---	---	---	---	2-8	5-10	---
bluebunch wheatgrass	AGSP	20-35	30-40	30-40	15-30	15-25	50-60	2-5
bluegrass	POA++	---	---	---	2-10	---	---	---
mountain brome	BRCA5	---	---	---	---	5-10	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	---	2-10
Utah serviceberry	AMUT	---	---	---	---	2-8	---	1-5
antelope bitterbrush	PUTR2	---	---	---	2-5	2-10	2-10	1-5
black sagebrush	ARARN	25-35	20-30	20-30	---	---	---	---
common chokecherry	PRVI	---	---	---	---	---	---	1-5
low sagebrush	ARAR8	---	---	---	15-25	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	10-20	5-15	5-15
snowberry	SYMPH	---	---	---	---	---	---	2-15

Range site number	024XY031NV	025XY057NV	025XY057NV	025XY017NV	025XY042NV	025XY009NV	025XY004NV
Potential production (lb/acre):							
Favorable years	700	700	700	900	700	1300	2800
Normal years	500	500	500	700	500	900	1800
Unfavorable years	300	300	300	400	300	700	1200

3010--TECOMAR-HOPEKA-GOLLAHER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		TECOMAR	HOPEKA	GOLLAHER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	---	---	5-15
Indian ricegrass	ORHY	2-5	X	2-8	X	---	---
Thurber needlegrass	STTH2	10-20	X	10-20	X	---	---
basin wildrye	ELCI2	---	X	---	X	---	2-8
bluebunch wheatgrass	AGSP	20-35	X	30-40	X	---	15-25
bluegrass	POA++	---	X	---	X	---	---
bottlebrush squirreltail	SIHY	---	X	---	X	---	---
mountain brome	BRCA5	---	---	---	---	---	5-10
arrowleaf balsamroot	BASA3	---	X	---	X	---	---
tapertip hawksbeard	CRAC2	---	X	---	X	---	---
Stansbury cliffrose	COMES	---	X	---	X	---	---
Utah serviceberry	AMUT	---	---	---	---	---	2-8
antelope bitterbrush	PUTR2	---	X	---	X	---	2-10
black sagebrush	ARARN	25-35	X	20-30	X	---	---
curlleaf mountainmahogany	CELE3	---	X	---	X	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20
serviceberry	AMELA	---	X	---	X	---	---
Utah juniper	JUOS	---	X	---	X	---	---
singleleaf pinyon	PIMO	---	X	---	X	---	---
Range site number		024XY031NV	028BY060NV	025XY057NV	028BY060NV	none	025XY042NV
Potential production (lb/acre):							
Favorable years		700	500	700	500		700
Normal years		500	300	500	300		500
Unfavorable years		300	250	300	250		300

3012--TECOMAR-KRAM-AMTOFT ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TECOMAR	KRAM	AMTOFT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5	X	2-8	---	---	---	---
Sandberg bluegrass	POSE	---	---	---	---	---	---	2-5
Thurber needlegrass	STTH2	10-20	X	10-20	---	5-15	15-25	15-25
basin wildrye	ELCI2	---	---	---	---	2-5	---	---
bluebunch wheatgrass	AGSP	20-35	X	30-40	---	60-80	20-35	25-40
bluegrass	POA++	---	X	---	---	---	---	---
goldenweed	HAPLO2	---	X	---	---	---	---	---
phlox	PHLOX	---	X	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	5-15	20-30	15-25
antelope bitterbrush	PUTR2	---	---	---	---	1-5	2-5	---
black sagebrush	ARARN	25-35	X	20-30	---	---	---	---
downy rabbitbrush	CHVIP4	---	X	---	---	---	---	---
Utah juniper	JUOS	---	X	---	---	---	---	---
Range site number		024XY031NV	025XY060NV	025XY057NV	none	025XY015NV	025XY021NV	025XY019NV
Potential production (lb/acre):								
Favorable years		700	400	700		1000	600	800
Normal years		500	275	500		700	400	600
Unfavorable years		300	150	300		500	250	400

3013--TECOMAR-HOPEKA-ROCK OUTCROP ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		TECOMAR	HOPEKA	ROCK OUTCROP	Inclusion 1	Inclusion 2
Indian ricegrass	ORHY	2-5	X	---	2-8	15-25
Sandberg bluegrass	POSE	---	---	---	---	2-5
Thurber needlegrass	STTH2	10-20	X	---	10-20	---
basin wildrye	ELCI2	---	X	---	---	---
bluebunch wheatgrass	AGSP	20-35	X	---	30-40	---
bluegrass	POA++	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	X	---	---	2-5
needleandthread	STCO4	---	---	---	---	10-20
arrowleaf balsamroot	BASA3	---	X	---	---	---
tapertip hawksbeard	CRAC2	---	X	---	---	---
Stansbury cliffrose	COMES	---	X	---	---	---
antelope bitterbrush	PUTR2	---	X	---	---	---
black sagebrush	ARARN	25-35	X	---	20-30	---
bud sagebrush	ARSP5	---	---	---	---	10-15
curlleaf mountainmahogany	CELE3	---	X	---	---	---
serviceberry	AMELA	---	X	---	---	---
shadscale	ATCO	---	---	---	---	40-50
Utah juniper	JUOS	---	X	---	---	---
singleleaf pinyon	PIMO	---	X	---	---	---
Range site number		024XY031NV	028BY060NV	none	025XY057NV	028BY019NV
Potential production (lb/acre):						
Favorable years		700	500		700	300
Normal years		500	300		500	225
Unfavorable years		300	250		300	100

3014--TECOMAR-KZIN-HOPEKA ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions Soil name or Inclusion number--						
		TECOMAR	KZIN	HOPEKA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	---	30-40	---
Indian ricegrass	ORHY	2-5	X	X	---	2-8	---	---
Nevada bluegrass	PONE3	---	---	---	---	---	2-5	5-10
Sandberg bluegrass	POSE	---	---	---	2-5	---	---	---
Thurber needlegrass	STTH2	10-20	X	X	15-25	10-20	---	---
basin wildrye	ELCI2	---	X	X	---	---	2-10	60-70
bluebunch wheatgrass	AGSP	20-35	X	X	25-40	30-40	15-30	---
bluegrass	POA++	---	X	X	---	---	---	---
bottlebrush squirreltail	SIHY	---	X	X	---	---	---	---
mat muhly	MURI	---	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	---	2-8
arrowleaf balsamroot	BASA3	---	X	X	---	---	2-5	---
tapertip hawksbeard	CRAC2	---	X	X	---	---	2-5	---
Stansbury cliffrose	COMES	---	X	X	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	15-25	---	---	---
antelope bitterbrush	PUTR2	---	X	X	---	---	5-10	---
basin big sagebrush	ARTRT	---	---	---	---	---	---	5-10
black sagebrush	ARARN	25-35	X	X	---	20-30	---	---
curlleaf mountainmahogany	CELE3	---	X	X	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20	---
serviceberry	AMELA	---	X	X	---	---	---	---
Utah juniper	JUOS	---	X	X	---	---	---	---
singleleaf pinyon	PIMO	---	X	X	---	---	---	---

Range site number	024XY031NV	028BY060NV	028BY060NV	025XY019NV	025XY057NV	025XY012NV	025XY003NV
Potential production (lb/acre):							
Favorable years	700	500	500	800	700	1400	4500
Normal years	500	300	300	600	500	1000	3500
Unfavorable years	300	250	250	400	300	700	2000

3015--TECOMAR-KZIN ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		TECOMAR	KZIN	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5	X	2-8	X	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	10-20	X	10-20	X	15-25	---
basin wildrye	ELCI2	---	X	---	X	---	---
bluebunch wheatgrass	AGSP	20-35	X	30-40	X	25-40	---
bluegrass	POA++	---	X	---	X	---	---
bottlebrush squirreltail	SIHY	---	X	---	X	---	---
arrowleaf balsamroot	BASA3	---	X	---	X	---	---
tapertip hawksbeard	CRAC2	---	X	---	X	---	---
Stansbury cliffrose	COMES	---	X	---	X	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	15-25	---
antelope bitterbrush	PUTR2	---	X	---	X	---	---
black sagebrush	ARARN	25-35	X	20-30	X	---	---
curlleaf mountainmahogany	CELE3	---	X	---	X	---	---
serviceberry	AMELA	---	X	---	X	---	---
Utah juniper	JUOS	---	X	---	X	---	---
singleleaf pinyon	PIMO	---	X	---	X	---	---
Range site number		024XY031NV	028BY060NV	025XY057NV	028BY060NV	025XY019NV	none
Potential production (lb/acre):							
Favorable years		700	500	700	500	800	
Normal years		500	300	500	300	600	
Unfavorable years		300	250	300	250	400	

3016--TECOMAR-IZAR-HUNDRAW ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TECOMAR	IZAR	HUNDRAW	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-5	5-15	X	2-8	5-15	---	---
Sandberg bluegrass	POSE	---	---	---	---	---	---	2-5
Thurber needlegrass	STTH2	10-20	15-30	X	10-20	15-30	---	15-25
bluebunch wheatgrass	AGSP	20-35	---	X	30-40	---	---	25-40
bluegrass	POA++	---	---	X	---	---	---	---
globemallow	SPHAE	---	2-5	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	X	---	---	---	---
phlox	PHLOX	---	---	X	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	---	15-25
black sagebrush	ARARN	25-35	25-35	X	20-30	25-35	---	---
downy rabbitbrush	CHVIP4	---	---	X	---	---	---	---
Utah juniper	JUOS	---	---	X	---	---	---	---
Range site number		024XY031NV	024XY030NV	025XY060NV	025XY057NV	024XY030NV	none	025XY019NV
Potential production (lb/acre):								
Favorable years		700	500	400	700	500		800
Normal years		500	350	275	500	350		600
Unfavorable years		300	250	150	300	250		400

3017--TECOMAR-AMTOFT-SHIVLUM ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TECOMAR	AMTOFT	SHIVLUM	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-5	---
Idaho fescue	FEID	---	---	40-60	---	---	2-10	---
Indian ricegrass	ORHY	2-5	2-8	---	---	5-15	---	2-5
Nevada bluegrass	PONE3	---	---	2-8	---	---	2-5	---
Thurber needlegrass	STTH2	10-20	10-20	---	---	15-30	---	10-20
basin wildrye	ELCI2	---	---	2-8	---	---	---	---
bluebunch wheatgrass	AGSP	20-35	30-40	5-15	---	---	2-5	20-35
mountain brome	BRCA5	---	---	---	---	---	5-15	---
slender wheatgrass	AGTR	---	---	---	---	---	5-15	---
spike fescue	LEKI2	---	---	---	---	---	2-10	---
globemallow	SPHAE	---	---	---	---	2-5	---	---
Utah serviceberry	AMUT	---	---	---	---	---	1-5	---
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5	---
basin big sagebrush	ARTRT	---	---	10-20	---	---	---	---
black sagebrush	ARARN	25-35	20-30	---	---	25-35	---	25-35
common chokecherry	PRVI	---	---	---	---	---	1-5	---
mountain big sagebrush	ARVA2	---	---	---	---	---	5-15	---
snowberry	SYMPH	---	---	---	---	---	2-15	---
Range site number		024XY031NV	025XY057NV	025XY027NV	none	024XY030NV	025XY004NV	024XY031NV
Potential production (lb/acre):								
Favorable years		700	700	1300		500	2800	700
Normal years		500	500	900		350	1800	500
Unfavorable years		300	300	500		250	1200	300

5018--TECOMAR-NIRAC-FRAM ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TECOMAR	NIRAC	FRAM	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	30-40	---	---	2-5	---	5-15
Indian ricegrass	ORHY	2-5	---	X	2-8	---	X	---
Nevada bluegrass	PONE3	---	2-5	---	---	2-5	---	---
Thurber needlegrass	STTH2	10-20	--	X	10-20	2-8	X	---
basin wildrye	ELCI2	---	2-10	---	---	5-10	---	2-8
bluebunch wheatgrass	AGSP	20-35	15-30	X	30-40	50-60	X	15-25
bluegrass	POA++	---	---	X	---	---	X	---
mountain brome	BRCA5	---	---	---	---	---	---	5-10
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---	---
goldenweed	HAPLO2	---	---	X	---	---	X	---
phlox	PHLOX	---	---	X	---	---	X	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	---	2-8
antelope bitterbrush	PUTR2	---	5-10	---	---	2-10	---	2-10
black sagebrush	ARARN	25-35	---	X	20-30	---	X	---
downy rabbitbrush	CHVIP4	---	---	X	---	---	X	---
mountain big sagebrush	ARVA2	---	10-20	---	---	5-15	---	10-20
Utah juniper	JUOS	---	---	X	---	---	X	---

Range site number	024XY031NV	025XY012NV	025XY060NV	025XY057NV	025XY009NV	025XY060NV	025XY042NV
Potential production (lb/acre):							
Favorable years	700	1400	400	700	1300	400	700
Normal years	500	1000	275	500	900	275	500
Unfavorable years	300	700	150	300	700	150	300

3019--TECOMAR-HOPEKA-EKIM ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		TECOMAR	HOPEKA	EKIM	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	---	30-40	---	2-5
Indian ricegrass	ORHY	2-5	X	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	---	---	2-5	---	2-5
Thurber needlegrass	STTH2	10-20	X	5-15	10-20	---	---	2-8
basin wildrye	ELCI2	---	X	2-5	2-8	2-10	---	5-10
bluebunch wheatgrass	AGSP	20-35	X	60-80	20-35	15-30	---	50-60
bluegrass	POA++	---	X	---	2-10	---	---	---
bottlebrush squirreltail	SIHY	---	X	---	---	---	---	---
arrowleaf balsamroot	BASA3	---	X	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	X	---	---	2-5	---	---
Stansbury cliffrose	COMES	---	X	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	5-15	---	---	---	---
antelope bitterbrush	PUTR2	---	X	1-5	2-8	5-10	---	2-10
big sagebrush	ARTR2	---	---	---	10-20	---	---	---
black sagebrush	ARARN	25-35	X	---	---	---	---	---
curlleaf mountainmahogany	CELE3	---	X	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	---	10-20	---	5-15
serviceberry	AMELA	---	X	---	---	---	---	---
Utah juniper	JUOS	---	X	---	---	---	---	---
singleleaf pinyon	PIMO	---	X	---	---	---	---	---
Range site number		024XY031NV	028BY060NV	025XY015NV	025XY014NV	025XY012NV	none	025XY009NV
Potential production (lb acre):								
Favorable years		700	500	1000	1000	1400		1300
Normal years		500	300	700	800	1000		900
Unfavorable years		300	250	500	600	700		700

3020--AMTOFT-TECOMAR-KZIN ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		AMTOFT	TECOMAR	KZIN	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	2-8	2-5	X	20-35	---	15-30
Sandberg bluegrass	POSE	---	---	---	2-8	---	---
Thurber needlegrass	STTH2	10-20	10-20	X	---	---	---
basin wildrye	ELCI2	---	---	X	---	---	5-10
bluebunch wheatgrass	AGSP	30-40	20-35	X	---	---	---
bluegrass	POA++	---	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	---	X	2-5	---	---
needleandthread	STCO4	---	---	---	5-15	---	30-40
arrowleaf balsamroot	BASA3	---	---	X	---	---	---
tapertip hawksbeard	CRAC2	---	---	X	---	---	---
Stansbury cliffrose	COMES	---	---	X	---	---	---
antelope bitterbrush	PUTR2	---	---	X	---	---	---
big sagebrush	ARTR2	---	---	---	---	---	15-25
black sagebrush	ARARN	20-30	25-35	X	25-35	---	---
curlleaf mountainmahogany	CELE3	---	---	X	---	---	---
downy rabbitbrush	CHVIP4	---	---	---	2-5	---	---
serviceberry	AMELA	---	---	X	---	---	---
shadscale	ATCO	---	---	---	2-5	---	---
spiny hopsage	GRSP	---	---	---	---	---	1-5
Utah juniper	JUOS	---	---	X	---	---	---
singleleaf pinyon	PIMO	---	---	X	---	---	---
Range site number		025XY057NV	024XY031NV	028BY060NV	028BY011NV	none	024XY017NV
Potential production (lb acre):							
Favorable years		700	700	500	600		900
Normal years		500	500	300	450		700
Unfavorable years		300	300	250	250		500

3021--AMTOFT-TECOMAR-ROCK OUTCROP ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		AMTOFT	TECOMAR	ROCK OUTCROP	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	2-8	2-5	---	X	5-15	---	---
Thurber needlegrass	STTH2	10-20	10-20	---	X	15-30	5-15	15-25
basin wildrye	ELCI2	---	---	---	---	---	2-5	---
bluebunch wheatgrass	AGSP	30-40	20-35	---	X	---	60-80	20-35
bluegrass	POA++	---	---	---	X	---	---	---
globemallow	SPHAE	---	---	---	---	2-5	---	---
goldenweed	HAPLO2	---	---	---	X	---	---	---
phlox	PHLOX	---	---	---	X	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	---	5-15	20-30
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5	2-5
black sagebrush	ARARN	20-30	25-35	---	X	25-35	---	---
downy rabbitbrush	CHVIP4	---	---	---	X	---	---	---
Utah juniper	JUOS	---	---	---	X	---	---	---
Range site number		025XY057NV	024XY031NV	none	025XY060NV	024XY030NV	025XY015NV	025XY021NV
Potential production (lb/acre):								
Favorable years		700	700		400	500	1000	600
Normal years		500	500		275	350	700	400
Unfavorable years		300	300		150	250	500	250

3023--AMTOFT-JERICHO-TECOMAR ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		AMTOFT	JERICHO	TECOMAR	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	2-8	---	2-5	X	5-15	---
Sandberg bluegrass	POSE	---	2-5	---	---	---	---
Thurber needlegrass	STTH2	10-20	15-25	10-20	X	15-30	5-15
basin wildrye	ELCI2	---	---	---	---	---	2-5
bluebunch wheatgrass	AGSP	30-40	25-40	20-35	X	---	60-80
bluegrass	POA++	---	---	---	X	---	---
globemallow	SPHAE	---	---	---	---	2-5	---
goldenweed	HAPLO2	---	---	---	X	---	---
phlox	PHLOX	---	---	---	X	---	---
Wyoming big sagebrush	ARTRW	---	15-25	---	---	---	5-15
antelope bitterbrush	PUTR2	---	---	---	---	---	1-5
black sagebrush	ARARN	20-30	---	25-35	X	25-35	---
downy rabbitbrush	CHVIP4	---	---	---	X	---	---
Utah juniper	JUOS	---	---	---	X	---	---

Range site number	025XY057NV	025XY019NV	024XY031NV	025XY060NV	024XY030NV	025XY015NV
Potential production (lb/acre):						
Favorable years	700	800	700	400	500	1000
Normal years	500	600	500	275	350	700
Unfavorable years	300	400	300	150	250	500

3025--AMTOFT-ARCIA-KRAM ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		AMTOFT	ARCIA	KRAM	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	---	2-5
Idaho fescue	FEID	---	30-40	---	40-60	40-60	30-50	2-10
Indian ricegrass	ORHY	2-8	---	X	---	---	---	---
Nevada bluegrass	PONE3	---	2-5	---	2-8	2-8	---	2-5
Thurber needlegrass	STTH2	10-20	---	X	---	---	---	---
basin wildrye	ELCI2	---	2-10	---	2-8	2-8	---	---
bluebunch wheatgrass	AGSP	30-40	15-30	X	5-15	5-15	15-30	2-5
bluegrass	POA++	---	---	X	---	---	2-10	---
mountain brome	BRCA5	---	---	---	---	---	---	5-15
slender wheatgrass	AGTR	---	---	---	---	---	---	5-15
spike-fescue	LEKI2	---	---	---	---	---	---	2-10
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---	---
goldenweed	HAPLO2	---	---	X	---	---	---	---
phlox	PHLOX	---	---	X	---	---	---	---
tapertip hawksbeard	CRAC2	---	2-5	---	---	---	---	---
Utah serviceberry	AMUT	---	---	---	---	---	---	1-5
antelope bitterbrush	PUTR2	---	5-10	---	---	---	2-5	1-5
basin big sagebrush	ARTRT	---	---	---	10-20	10-20	---	---
black sagebrush	ARARN	20-30	---	X	---	---	---	---
common chokecherry	PRVI	---	---	---	---	---	---	1-5
downy rabbitbrush	CHVIP4	---	---	X	---	---	---	---
low sagebrush	ARAR8	---	---	---	---	---	15-25	---
mountain big sagebrush	ARVA2	---	10-20	---	---	---	---	5-15
snowberry	SYMPH	---	---	---	---	---	---	2-15
Utah juniper	JUOS	---	---	X	---	---	---	---

Range site number	025XY057NV	025XY012NV	025XY060NV	025XY027NV	025XY027NV	025XY017NV	025XY004NV
Potential production (lb/acre).							
Favorable years	700	1400	400	1300	1300	900	2800
Normal years	500	1000	275	900	900	700	1800
Unfavorable years	300	700	150	500	500	400	1200

3030--COBRE-IZAR-JACKPOT ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COBRE	IZAR	JACKPOT	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	20-30	5-15	15-30	15-30	X	20-30
Sandberg bluegrass	POSE	2-5	---	---	---	---	2-5
Thurber needlegrass	STTH2	---	15-30	---	---	X	---
basin wildrye	ELCI2	---	---	5-10	2-8	---	---
bluebunch wheatgrass	AGSP	---	---	---	---	X	---
bluegrass	POA++	---	---	---	---	X	---
bottlebrush squirreltail	SIHY	2-8	---	---	5-10	---	2-8
needleandthread	STCO4	10-20	---	30-40	---	---	10-20
globemallow	SPHAE	---	2-5	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	X	---
phlox	PHLOX	---	---	---	---	X	---
Wyoming big sagebrush	ARTRW	25-35	---	---	15-30	---	25-35
antelope bitterbrush	PUTR2	---	---	---	2-8	---	---
big sagebrush	ARTR2	---	---	15-25	---	---	---
black sagebrush	ARARN	---	25-35	---	10-20	X	---
downy rabbitbrush	CHVIP4	---	---	---	---	X	---
rabbitbrush	CHRYS9	2-5	---	---	---	---	2-5
spiny hopsage	GRSP	---	---	1-5	2-5	---	---
Utah juniper	JUOS	---	---	---	---	X	---
Range site number		028BY010NV	024XY030NV	024XY017NV	025XY025NV	025XY060NV	028BY010NV
Potential production (lb/acre):							
Favorable years		800	500	900	500	400	800
Normal years		600	350	700	350	275	600
Unfavorable years		400	250	500	200	150	400

3031--COBRE-HUNDRAW-JACKPOT ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COBRE	HUNDRAW	JACKPOT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	20-30	X	15-30	20-35	15-30	2-5	20-30
Sandberg bluegrass	POSE	2-5	---	---	2-8	---	---	2-5
Thurber needlegrass	STTH2	---	X	---	---	---	10-20	---
basin wildrye	ELCI2	---	---	5-10	---	2-8	---	---
bluebunch wheatgrass	AGSP	---	X	---	---	---	20-35	---
bluegrass	POA++	---	X	---	---	---	---	---
bottlebrush squirreltail	SIHY	2-8	---	---	2-5	5-10	---	2-8
needleandthread	STCO4	10-20	---	30-40	5-15	---	---	10-20
goldenweed	HAPLO2	---	X	---	---	---	---	---
phlox	PHLOX	---	X	---	---	---	---	---
Wyoming big sagebrush	ARTRW	25-35	---	---	---	15-30	---	25-35
antelope bitterbrush	PUTR2	---	---	---	---	2-8	---	---
big sagebrush	ARTR2	---	---	15-25	---	---	---	---
black sagebrush	ARARN	---	X	---	25-35	10-20	25-35	---
downy rabbitbrush	CHVIP4	---	X	---	2-5	---	---	---
rabbitbrush	CHRYS9	2-5	---	---	---	---	---	2-5
shadscale	ATCO	---	---	---	2-5	---	---	---
spiny hopsage	GRSP	---	---	1-5	---	2-5	---	---
Utah juniper	JUOS	---	X	---	---	---	---	---

Range site number	028BY010NV	025XY060NV	024XY017NV	028BY011NV	025XY025NV	024XY031NV	028BY010NV
Potential production (lb/acre):							
Favorable years	800	400	900	600	500	700	800
Normal years	600	275	700	450	350	500	600
Unfavorable years	400	150	500	250	200	300	400

3032--COBRE-HUNDRAW-ANOWELL ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		COBRE	HUNDRAW	ANOWELL	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	5-15	2-5	X	---	2-8	15-30
Sandberg bluegrass	POSE	2-5	---	---	---	2-5	---	---
Thurber needlegrass	STTH2	15-25	15-30	10-20	X	15-25	---	---
basin wildrye	ELCI2	---	---	---	---	---	---	5-10
bluebunch wheatgrass	AGSP	25-40	---	20-35	X	25-40	---	---
bluegrass	POA++	---	---	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	---	---	---	---	2-5	---
needleandthread	STCO4	---	---	---	---	---	---	30-40
western wheatgrass	AGSM	---	---	---	---	---	5-15	---
globemallow	SPHAE	---	2-5	---	---	---	---	---
goldenweed	HAPLO2	---	---	---	X	---	---	---
phlox	PHLOX	---	---	---	X	---	---	---
Wyoming big sagebrush	ARTRW	15-25	---	---	---	15-25	---	---
big sagebrush	ARTR2	---	---	---	---	---	---	15-25
black sagebrush	ARARN	---	25-35	25-35	X	---	---	---
downy rabbitbrush	CHVIP4	---	---	---	X	---	---	---
shadscale	ATCO	---	---	---	---	---	2-5	---
sickle saltbush	ATFA	---	---	---	---	---	55-65	---
spiny hopsage	GRSP	---	---	---	---	---	---	1-5
winterfat	EULA5	---	---	---	---	---	5-15	---
Utah juniper	JUOS	---	---	---	X	---	---	---

Range site number	025XY019NV	024XY030NV	024XY031NV	025XY060NV	025XY019NV	028BY047NV	024XY017NV
Potential production (lb/acre):							
Favorable years	800	500	700	400	800	500	900
Normal years	600	350	500	275	600	350	700
Unfavorable years	400	250	300	150	400	200	500

3033--COBRE-HUNDRAW-ZAPA ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COBRE	HUNDRAW	ZAPA	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	5-15	5-15	---	2-5	X
Sandberg bluegrass	POSE	2-5	---	---	2-5	---	---
Thurber needlegrass	STTH2	15-25	15-30	15-30	15-25	10-20	X
bluebunch wheatgrass	AGSP	25-40	---	---	25-40	20-35	X
bluegrass	POA++	---	---	---	---	---	X
globemallow	SPHAE	---	2-5	2-5	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	X
phlox	PHLOX	---	---	---	---	---	X
Wyoming big sagebrush	ARTRW	15-25	---	---	15-25	---	---
black sagebrush	ARARN	---	25-35	25-35	---	25-35	X
downy rabbitbrush	CHVIP4	---	---	---	---	---	X
Utah juniper	JUOS	---	---	---	---	---	X
Range site number		025XY019NV	024XY030NV	024XY030NV	025XY019NV	024XY031NV	025XY060NV
Potential production (lb/acre):							
Favorable years		800	500	500	800	700	400
Normal years		600	350	350	600	500	275
Unfavorable years		400	250	250	400	300	150

3036--COBRE-ENKO ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		COBRE	ENKO	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Indian ricegrass	ORHY	---	---	---	X	5-15	X
Sandberg bluegrass	POSE	2-5	2-5	2-5	---	---	---
Thurber needlegrass	STTH2	15-25	15-25	15-25	X	15-30	X
basin wildrye	ELCI2	---	---	---	---	---	X
bluebunch wheatgrass	AGSP	25-40	25-40	25-40	X	---	X
bluegrass	POA++	---	---	---	X	---	X
bottlebrush squirreltail	SIHY	---	---	---	---	---	X
arrowleaf balsamroot	BASA3	---	---	---	---	---	X
globemallow	SPHAE	---	---	---	---	2-5	---
goldenweed	HAPLO2	---	---	---	X	---	---
phlox	PHLOX	---	---	---	X	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	X
Stansbury cliffrose	COMES	---	---	---	---	---	X
Wyoming big sagebrush	ARTRW	15-25	15-25	15-25	---	---	---
antelope bitterbrush	PUTR2	---	---	---	---	---	X
black sagebrush	ARARN	---	---	---	X	25-35	X
curlleaf mountainmahogany	CELE3	---	---	---	---	---	X
downy rabbitbrush	CHVIP4	---	---	---	X	---	---
serviceberry	AMELA	---	---	---	---	---	X
Utah juniper	JUOS	---	---	---	X	---	X
singleleaf pinyon	PIMO	---	---	---	---	---	X

Range site number	025XY019NV	025XY019NV	025XY019NV	025XY060NV	024XY030NV	028BY060NV
Potential production (lb acre):						
Favorable years	800	800	800	400	500	500
Normal years	600	600	600	275	350	300
Unfavorable years	400	400	400	150	250	250

3040--PLAYER-MCIVEY-HOGMALAT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		PLAYER	MCIVEY	HOGMALAT	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Columbia needlegrass	STNE3	---	---	---	---	---	2-8	---
Idaho fescue	FEID	---	30-40	---	---	---	---	5-30
Indian ricegrass	ORHY	---	---	---	2-5	---	---	---
Letterman needlegrass	STLE4	---	---	---	---	---	2-5	---
Nevada bluegrass	PONE3	---	2-5	---	---	---	---	---
Sandberg bluegrass	POSE	2-5	---	---	---	---	---	---
Thurber needlegrass	STTH2	5-15	---	---	5-10	---	---	---
basin wildrye	ELCI2	---	2-10	---	---	---	---	---
bluebunch wheatgrass	AGSP	25-35	15-30	20-30	5-10	---	---	---
bluegrass	POA++	---	---	---	2-8	---	---	5-15
bottlebrush squirreltail	SIHY	---	---	---	2-5	---	---	---
mountain brome	BRCA5	---	---	---	---	---	5-10	---
muttongrass	POFE	---	---	2-8	---	---	---	---
needlegrass	STIPA	---	---	5-15	---	---	---	---
slender wheatgrass	AGTR	---	---	---	---	---	5-10	---
arrowleaf balsamroot	BASA3	---	2-5	---	---	---	---	---
goldenweed	HAPLO2	---	---	---	---	---	---	2-5
tapertip hawksbeard	CRAC2	2-5	2-5	---	---	---	---	---
antelope bitterbrush	PUTR2	---	5-10	---	---	---	---	---
black sagebrush	ARARN	25-35	---	---	---	---	---	---
mountain big sagebrush	ARVA2	---	10-20	15-25	2-5	---	---	---
quaking aspen	POTRT	---	---	---	---	---	50-60	---
sagebrush	ARTEM	---	---	---	---	---	---	30-35
snowberry	SYMPH	---	---	2-8	---	---	---	---
snowbrush ceanothus	CEVE	---	---	---	---	70-80	---	---
willow	SALIX	---	---	---	---	---	1-8	---
curlleaf mountainmahogany	CELE3	---	---	15-25	50-70	---	---	---

Range site number	025XY055NV	025XY012NV	028BY043NV	028BY042NV	025XY052NV	025XY002NV	025XY024NV
Potential production (lb/acre):							
Favorable years	500	1400	1700	3000	2800	1800	400
Normal years	375	1000	1300	2400	2000	1300	275
Unfavorable years	250	700	900	1700	1700	900	150

3070--ARVA-CHEN-SUMINE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		ARVA	CHEN	SUMINE	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	40-60	30-50	2-5	30-40	5-30	---	---
Nevada bluegrass	PONE3	2-8	---	2-5	2-5	---	5-10	40-60
Thurber needlegrass	STTH2	---	---	2-8	---	---	---	---
alpine timothy	PHAL2	---	---	---	---	---	---	20-40
basin wildrye	ELCI2	2-8	---	5-10	2-10	---	60-70	2-8
bluebunch wheatgrass	AGSP	5-15	15-30	50-60	15-30	---	---	---
bluegrass	POA++	---	2-10	---	---	5-15	---	---
mat muhly	MURI	---	---	---	---	---	2-8	2-8
meadow barley	HOBR2	---	---	---	---	---	---	2-5
sedge	CAREX	---	---	---	---	---	---	2-8
streambank wheatgrass	AGDAR	---	---	---	---	---	2-8	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---	---	---
goldenweed	HAPLO2	---	---	---	---	2-5	---	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---	---	---
antelope bitterbrush	PUTR2	---	2-5	2-10	5-10	---	---	---
basin big sagebrush	ARTRT	10-20	---	---	---	---	5-10	---
low sagebrush	ARAR8	---	15-25	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	5-15	10-20	---	---	---
sagebrush	ARTEM	---	---	---	---	30-35	---	---
Range site number		025XY027NV	025XY017NV	025XY009NV	025XY012NV	025XY024NV	025XY003NV	025XY006NV
Potential production (lb/acre):								
Favorable years		1300	900	1300	1400	400	4500	2000
Normal years		900	700	900	1000	275	3500	1300
Unfavorable years		500	400	700	700	150	2000	800

3080--FENELON-LERROW VARIANT-COTANT ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		FENELON	LERROW VARIANT	COTANT	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	5-15	30-50	---	---	30-50
Indian ricegrass	ORHY	2-5	---	---	---	2-8	---
Nevada bluegrass	PONE3	---	---	---	40-60	---	---
Thurber needlegrass	STTH2	10-20	---	---	---	10-20	---
alpine timothy	PHAL2	---	---	---	20-40	---	---
basin wildrye	ELCI2	---	---	---	2-8	---	---
bluebunch wheatgrass	AGSP	20-35	2-10	15-30	---	30-40	15-30
bluegrass	POA++	---	---	2-10	---	---	2-10
mat muhly	MURI	---	---	---	2-8	---	---
meadow barley	HOBR2	---	---	---	2-5	---	---
sedge	CAREX	---	---	---	2-8	---	---
antelope bitterbrush	PUTR2	---	2-8	2-5	---	---	2-5
black sagebrush	ARARN	25-35	---	---	---	20-30	---
low sagebrush	ARAR8	---	---	15-25	---	---	15-25
mountain big sagebrush	ARVA2	---	2-5	---	---	---	---
serviceberry	AMELA	---	40-50	---	---	---	---
snowberry	SYMPH	---	2-8	---	---	---	---

Range site number	024XY031NV	025XY046NV	025XY017NV	025XY006NV	025XY057NV	025XY017NV
Potential production (lb/acre):						
Favorable years	700	1800	900	2000	700	900
Normal years	500	1300	700	1300	500	700
Unfavorable years	300	900	400	800	300	400

3081--FENELON-GOCHEA ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		FENELON	GOCHEA	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	---	30-50	---	---
Indian ricegrass	ORHY	2-5	---	---	---	---	2-8
Nevada bluegrass	PONE3	---	---	---	---	5-10	---
Sandberg bluegrass	POSE	---	---	2-8	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	15-30	---	---	10-20
Webber needlegrass	STWE	---	---	2-8	---	---	---
basin wildrye	ELCI2	---	2-8	---	---	60-70	---
bluebunch wheatgrass	AGSP	20-35	20-35	20-40	15-30	---	30-40
bluegrass	POA++	---	2-10	---	2-10	---	---
mat muhly	MURI	---	---	---	---	2-8	---
streambank wheatgrass	AGDAR	---	---	---	---	2-8	---
antelope bitterbrush	PUTR2	---	2-8	---	2-5	---	---
basin big sagebrush	ARTRT	---	---	---	---	5-10	---
big sagebrush	ARTR2	---	10-20	---	---	---	---
black sagebrush	ARARN	25-35	---	---	---	---	20-30
low sagebrush	ARAR8	---	---	---	15-25	---	---
sagebrush	ARTEM	---	---	20-30	---	---	---

Range site number	024XY031NV	025XY014NV	025XY018NV	025XY017NV	025XY003NV	025XY057NV
Potential production (lb/acre):						
Favorable years	700	1000	800	900	4500	700
Normal years	500	800	600	700	3500	500
Unfavorable years	300	600	400	400	2000	300

3100--KLECKNER-STAMPEDE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		KLECKNER	STAMPEDE	Inclusion 1	Inclusion 2	Inclusion 3
Sandberg bluegrass	POSE	---	---	---	2-5	2-5
Thurber needlegrass	STTH2	10-20	10-20	10-20	15-25	15-25
basin wildrye	ELCI2	2-8	2-8	2-8	---	---
bluebunch wheatgrass	AGSP	20-35	20-35	20-35	25-40	25-40
bluegrass	POA++	2-10	2-10	2-10	---	---
Wyoming big sagebrush	ARTRW	---	---	---	15-25	15-25
antelope bitterbrush	PUTR2	2-8	2-8	2-8	---	---
big sagebrush	ARTR2	10-20	10-20	10-20	---	---
Range site number		025XY014NV	025XY014NV	025XY014NV	025XY019NV	025XY019NV
Potential production (lb/acre).						
Favorable years		1000	1000	1000	800	800
Normal years		800	800	800	600	600
Unfavorable years		600	600	600	400	400

4000--WICUP-ANOWELL-KZIN ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable
Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		WICUP	ANOWELL	KZIN	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	2-5	X	2-8	---	2-5
Sandberg bluegrass	POSE	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	10-20	10-20	X	10-20	15-25	10-20
basin wildrye	ELCI2	2-8	---	X	---	---	---
bluebunch wheatgrass	AGSP	20-35	20-35	X	30-40	25-40	20-35
bluegrass	POA++	2-10	---	X	---	---	---
bottlebrush squirreltail	SIHY	---	---	X	---	---	---
arrowleaf balsamroot	BASA3	---	---	X	---	---	---
tapertip hawksbeard	CRAC2	---	---	X	---	---	---
Stansbury cliffrose	COMES	---	---	X	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	15-25	---
antelope bitterbrush	PUTR2	2-8	---	X	---	---	---
big sagebrush	ARTR2	10-20	---	---	---	---	---
black sagebrush	ARARN	---	25-35	X	20-30	---	25-35
curlleaf mountainmahogany	CELE3	---	---	X	---	---	---
serviceberry	AMELA	---	---	X	---	---	---
Utah juniper	JUOS	---	---	X	---	---	---
singleleaf pinyon	PIMO	---	---	X	---	---	---

Range site number	025XY014NV	024XY031NV	028BY060NV	025XY057NV	025XY019NV	024XY031NV
Potential production (lb/acre).						
Favorable years	1000	700	500	700	800	700
Normal years	800	500	300	500	600	500
Unfavorable years	600	300	250	300	400	300

4001--WICUP-FENELON-AKLER ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		WICUP	FENELON	AKLER	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	---	---	30-40
Indian ricegrass	ORHY	---	2-5	---	X	---	---
Nevada bluegrass	PONE3	---	---	---	---	40-60	2-5
Sandberg bluegrass	POSE	---	---	2-8	---	---	---
Thurber needlegrass	STTH2	10-20	10-20	15-30	X	---	---
Webber needlegrass	STWE	---	---	2-8	---	---	---
alpine timothy	PHAL2	---	---	---	---	20-40	---
basin wildrye	ELCI2	2-8	---	---	---	2-8	2-10
bluebunch wheatgrass	AGSP	20-35	20-35	20-40	X	---	15-30
bluegrass	POA++	2-10	---	---	X	---	---
mat muhly	MURI	---	---	---	---	2-8	---
meadow barley	HOBR2	---	---	---	---	2-5	---
sedge	CAREX	---	---	---	---	2-8	---
arrowleaf balsamroot	BASA3	---	---	---	---	---	2-5
goldenweed	HAPLO2	---	---	---	X	---	---
phlox	PHLOX	---	---	---	X	---	---
tapertip hawksbeard	CRAC2	---	---	---	---	---	2-5
antelope bitterbrush	PUTR2	2-8	---	---	---	---	5-10
big sagebrush	ARTR2	10-20	---	---	---	---	---
black sagebrush	ARARN	---	25-35	---	X	---	---
downy rabbitbrush	CHVIP4	---	---	---	X	---	---
mountain big sagebrush	ARVA2	---	---	---	---	---	10-20
sagebrush	ARTEM	---	---	20-30	---	---	---
Utah juniper	JUOS	---	---	---	X	---	---

Range site number	025XY014NV	024XY031NV	025XY018NV	025XY060NV	025XY006NV	025XY012NV
Potential production (lb/acre):						
Favorable years	1000	700	800	400	2000	1400
Normal years	800	500	600	275	1300	1000
Unfavorable years	600	300	400	150	800	700

4002--WICUP-GOCHEA-GUMBLE ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		WICUP	GOCHEA	GUMBLE	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	---	---	---	---	---	2-8
Sandberg bluegrass	POSE	---	---	2-5	2-8	2-5	---
Thurber needlegrass	STTH2	10-20	10-20	15-25	15-30	15-25	10-20
Webber needlegrass	STWE	---	---	---	2-8	---	---
basin wildrye	ELCI2	2-8	2-8	---	---	---	---
bluebunch wheatgrass	AGSP	20-35	20-35	25-40	20-40	25-40	30-40
bluegrass	POA++	2-10	2-10	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	15-25	---	15-25	---
antelope bitterbrush	PUTR2	2-8	2-8	---	---	---	---
big sagebrush	ARTR2	10-20	10-20	---	---	---	---
black sagebrush	ARARN	---	---	---	---	---	20-30
sagebrush	ARTEM	---	---	---	20-30	---	---
Range site number		025XY014NV	025XY014NV	025XY019NV	025XY018NV	025XY019NV	025XY057NV
Potential production (lb/acre):							
Favorable years		1000	1000	800	800	800	700
Normal years		800	800	600	600	600	500
Unfavorable years		600	600	400	400	400	300

4020--AKLER-CLEAVAGE-ELOCIN ASSOCIATION

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or Inclusion number--					
		AKLER	CLEAVAGE	ELOCIN	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	30-50	---	40-60	---	---
Nevada bluegrass	PONE3	---	---	---	2-8	---	---
Sandberg bluegrass	POSE	2-8	---	2-8	---	---	---
Thurber needlegrass	STTH2	15-30	---	15-30	---	---	10-20
Webber needlegrass	STWE	2-8	---	2-8	---	---	---
basin wildrye	ELCI2	---	---	---	2-8	---	2-8
bluebunch wheatgrass	AGSP	20-40	15-30	20-40	5-15	---	20-35
bluegrass	POA++	---	2-10	---	---	---	2-10
antelope bitterbrush	PUTR2	---	2-5	---	---	---	2-8
basin big sagebrush	ARTRT	---	---	---	10-20	---	---
big sagebrush	ARTR2	---	---	---	---	---	10-20
low sagebrush	ARAR8	---	15-25	---	---	---	---
sagebrush	ARTEM	20-30	---	20-30	---	---	---
Range site number		025XY018NV	025XY017NV	025XY018NV	025XY027NV	none	025XY014NV
Potential production (lb/acre):							
Favorable years		800	900	800	1300		1000
Normal years		600	700	600	900		800
Unfavorable years		400	400	400	500		600

4040--KRAM-AMTOFT-NIRAC ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions						
		Soil name or Inclusion number--						
		KRAM	AMTOFT	NIRAC	Inclusion 1	Inclusion 2	Inclusion 3	Inclusion 4
Idaho fescue	FEID	---	---	30-40	40-60	---	---	---
Indian ricegrass	ORHY	X	2-8	---	---	---	---	---
Nevada bluegrass	PONE3	---	---	2-5	2-8	---	---	---
Thurber needlegrass	STTH2	X	10-20	---	---	15-25	5-15	---
basin wildrye	ELCI2	---	---	2-10	2-8	---	2-5	---
bluebunch wheatgrass	AGSP	X	30-40	15-30	5-15	20-35	60-80	---
bluegrass	POA++	X	---	---	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	2-5	---	---	---	---
goldenweed	HAPLO2	X	---	---	---	---	---	---
phlox	PHLOX	X	---	---	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	2-5	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	---	---	20-30	5-15	---
antelope bitterbrush	PUTR2	---	---	5-10	---	2-5	1-5	---
basin big sagebrush	ARTRT	---	---	---	10-20	---	---	---
black sagebrush	ARARN	X	20-30	---	---	---	---	---
downy rabbitbrush	CHVIP4	X	---	---	---	---	---	---
mountain big sagebrush	ARVA2	---	---	10-20	---	---	---	---
Utah juniper	JUOS	X	---	---	---	---	---	---

Range site number	025XY060NV	025XY057NV	025XY012NV	025XY027NV	025XY021NV	025XY015NV	none
Potential production (lb acre):							
Favorable years	400	700	1400	1300	600	1000	
Normal years	275	500	1000	900	400	700	
Unfavorable years	150	300	700	500	250	500	

4041--KRAM-TECOMAR ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions				
		Soil name or Inclusion number--				
		KRAM	TECOMAR	Inclusion 1	Inclusion 2	Inclusion 3
Idaho fescue	FEID	---	---	---	30-40	15-30
Indian ricegrass	ORHY	X	2-5	---	---	---
Nevada bluegrass	PONE3	---	---	---	2-5	---
Thurber needlegrass	STTH2	X	10-20	---	---	2-5
basin wildrye	ELCI2	---	---	---	2-10	---
bluebunch wheatgrass	AGSP	X	20-35	---	15-30	10-20
bluegrass	POA++	X	---	---	---	---
arrowleaf balsamroot	BASA3	---	---	---	2-5	---
goldenweed	HAPLO2	X	---	---	---	---
phlox	PHLOX	X	---	---	---	---
tapertip hawksbeard	CRAC2	---	---	---	2-5	---
antelope bitterbrush	PUTR2	---	---	---	5-10	20-40
black sagebrush	ARARN	X	25-35	---	---	---
downy rabbitbrush	CHVIP4	X	---	---	---	---
mountain big sagebrush	ARVA2	---	---	---	10-20	5-10
Utah juniper	JUOS	X	---	---	---	---
Range site number		025XY060NV	024XY031NV	none	025XY012NV	025XY007NV
Potential production (lb/acre)						
Favorable years		400	700		1400	2300
Normal years		275	500		1000	1400
Unfavorable years		150	300		700	900

4042--KRAM-HOOPLITE-YUKO ASSOCIATION

(An X indicates that the named plant is in the potential native woodland understory and the percentage is highly variable. Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions					
		Soil name or inclusion number--					
		KRAM	HOOPLITE	YUKO	Inclusion 1	Inclusion 2	Inclusion 3
Indian ricegrass	ORHY	X	2-8	---	2-5	---	---
Sandberg bluegrass	POSE	---	---	---	---	2-5	---
Thurber needlegrass	STTH2	X	10-20	5-15	10-20	15-25	---
basin wildrye	ELCI2	---	---	2-5	---	---	---
bluebunch wheatgrass	AGSP	X	30-40	60-80	20-35	25-40	---
bluegrass	POA++	X	---	---	---	---	---
goldenweed	HAPLO2	X	---	---	---	---	---
phlox	PHLOX	X	---	---	---	---	---
Wyoming big sagebrush	ARTRW	---	---	5-15	---	15-25	---
antelope bitterbrush	PUTR2	---	---	1-5	---	---	---
black sagebrush	ARARN	X	20-30	---	25-35	---	---
downy rabbitbrush	CHVI4	X	---	---	---	---	---
Utah juniper	JUOS	X	---	---	---	---	---

Range site number	025XY060NV	025XY057NV	025XY015NV	024XY031NV	025XY019NV	none
Potential production (lb/acre):						
Favorable years	400	700	1000	700	800	
Normal years	275	500	700	500	600	
Unfavorable years	150	300	500	300	400	

4050--WATER

(Absence of an entry indicates that the named plant is not a key species in the potential native plant community)

Common plant name	Plant symbol	Percentage composition and production (dry weight) of plants on major soils and inclusions Soil name or Inclusion number-- WATER

Range site number: none

Potential production (lb/acre):
Favorable years
Normal years
Unfavorable years

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